

This brochure contains 11 species and groups of spiders that are most commonly encountered in New York. For additional help identifying spiders, you should purchase a guide at a local bookstore or search the internet for spiders.

COMMON Spiders OF NEW YORK

Spiders evoke a combination of curiosity and horror in people of all ages. Spiders' seeming ability to appear suddenly out of nowhere on their fine silk lines can startle anyone. But their frightening reputation is largely undeserved. Spiders are fascinating creatures! The webs of many species are intricate architectural wonders. They are superb predators that capture more prey than all other terrestrial predators combined. Spiders can be masters of stealth—blending into their surroundings or hiding so well that they are often overlooked.

While both insects and spiders are in the phylum Arthropoda, spiders are in the class Arachnida, which also contains scorpions, harvestmen, pseudoscorpions and ticks. All spiders (order Araneae) have eight legs, two body segments (cephalothorax and abdomen) separated by a waist, and unlike the insects, they do not have chewing mouthparts, antennae or wings. Spider jaws are called chelicerae, and include hollow fangs through which they inject venom to immobilize or kill their prey.

Spiders prey on small living invertebrates, such as insects or other spiders. Unable to swallow solid food, spiders liquefy their prey externally by regurgitating digestive juices onto it. They then crush the prey with their chelicerae and suck up the juices. Spiders have a pair of jointed appendages (called pedipalps or palps) on either side of the chelicerae that look like short legs. Palps help manipulate the prey during feeding.

Like all arthropods, spiders have a hard exoskeleton with flexible membranes at the joints so that the legs can bend. To grow larger, they molt, shedding the old exoskeleton and then sucking in air to inflate the soft underlying skeleton until it hardens at a larger size. Spiders molt up to a dozen times until they become sexually mature adults.

All spiders produce silk—thin, incredibly strong protein strands produced from various glands in the abdomen and extruded through microscopic spigots arranged on muscular spinnerets, which are located at the tip of the abdomen. Depending on the gland used, silk has different properties: some is sticky for catching prey; but most are non-sticky and are used to cover egg sacs, construct parts of webs, wrap prey, or make waterproof retreats. While not all spiders use silk to capture prey, they all use silk to produce draglines, two fine strands that are continuously released wherever the spider walks. Many small spiders use these lines to disperse long distances, simply extruding a bit of dragline into the breeze which carries them away.

Spiders mate in a way that is unique in the animal kingdom. When a male becomes sexually mature, the ends of his palps develop into swollen structures that function as small, complex syringes. Before courting a female, the male constructs a small web on which he deposits a drop of sperm. He then sucks up the sperm into each of his "palp syringes" which are then used to inseminate the female. Mating is a risky business for males as female spiders of many species attempt to cannibalize males after mating.

In New York's northern climate, spiders typically live only one year. Most pass the winter as eggs that develop into adults in summer and then die in fall. However, some species overwinter as inactive adults, hiding in crevices under bark, or stones, or in window casements. To avoid the lethal effects of freezing solid, they secrete antifreeze into their blood. In spring, they complete their life cycle by mating, laying eggs, and dying.



Text by Linda Rayor and Cole Gilbert, Department of Entomology, Cornell University; Supported by the Grace Griswold Fund, Cornell University
Artwork by Patricia Kernan, NYS Museum; Layout design by Frank Herec, NYSDEC

Reprinted from the New York State Conservationist, June 2007



To subscribe, visit www.theconservationist.org or call 1-800-678-6399



There are about 40,000 identified spider species worldwide. This can make properly identifying an individual tricky. By focusing on certain physical traits you should be able to narrow down to the group. For instance, the shape of the abdomen,

relative sturdiness of the legs, or eye patterns are often characteristic of a specific group. Likewise, the presence and shape of a web are important clues. Spiders living in webs are built differently than their non-web living relatives

who must support their weight against gravity while walking. Knowing a spider's habitat is also informative—fishing spiders live near water, crab spiders hunt in flowers, while cellar spiders are common near ceilings in homes.



Fishing or nursery web spiders

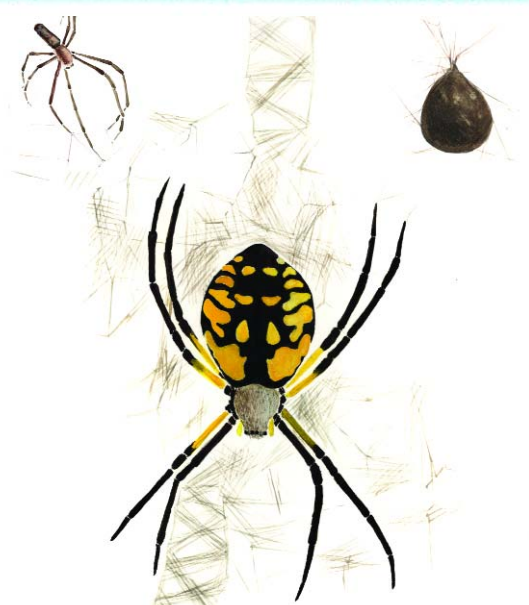
Pisauridae

Nursery web spiders resemble wolf spiders, but have smaller eyes and legs that are held more widely to the sides of their body. They get their name from the fact that some species fish for aquatic prey, such as insects, crustaceans, or even small minnows. Standing on the banks of streams or ponds with their legs lightly touching the water, the spiders feel for vibrations from passing prey and then quickly dive into the water to pursue it. Other species of this spider hunt vertically on vegetation or basement walls. Fishing or nursery web spiders build a characteristic "nursery" web in vegetation, where they guard their egg sacs and spiderlings. (Pictured above is *Dolomedes triton*.)



sac spiders

Clubionidae, Miturgidae Sac spiders are typically light colored spiders with noticeably protruding spinnerets and dark fangs. They weave small silk sacs under rocks or loose bark that they use for sleeping retreats and rearing young. Sac spiders lack capture webs, and wander in vegetation and occasionally in homes looking for prey. There are two family groups of sac spiders. Two species of small, pale, yellow spiders, called yellow sac spiders *Cheiracanthium mildei* (pictured here) and *C. inclusum*, are the only spiders in New York that are moderately poisonous to humans. They have necrotic venom that causes itchy or painful ulcerating sores that are slow to heal. In New York, bites attributed to brown recluse spiders are almost certainly from yellow sac spiders.



black & yellow garden spider

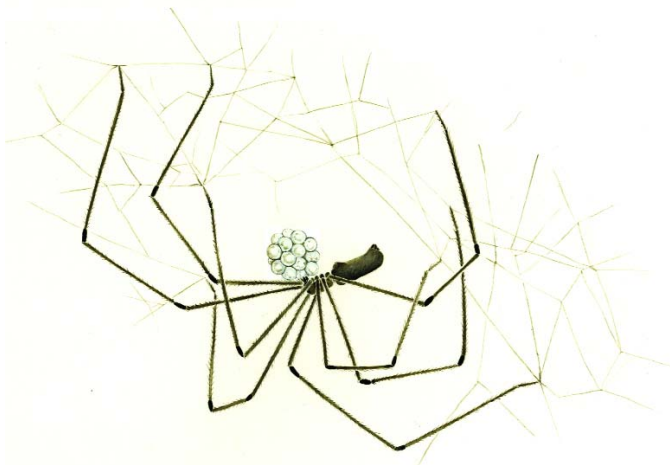
Araneidae: Argiope aurantia

One of the largest, most conspicuous spiders in New York, the diurnally active black and yellow garden spider occurs in sunny fields and gardens. Like all orb weavers, its web is an architectural wonder, designed to greatly extend the spider's sensory system while using a minimal amount of silk to trap or slow down flying prey. The web has several parts: non-sticky spokes (radii) and lines that frame the web provide structural support; the sticky spiral ensnares flying insects; and the broad swaths of white zigzag silk deter birds from flying through it. The web is rebuilt each morning to refresh glue on the spiral. Large prey items are wrapped and immobilized with broad bands of swathing silk. Sexually dimorphic, adult females are hundreds of times larger than the tiny males.



sheet web weavers

Linyphiidae Often overlooked because of their small size (less than a quarter inch long), sheet web weavers are among the most abundant spiders in vegetation. They build fine, non-sticky, sheet webs in vegetation. The webs are composed of a lace-like horizontal web with "knock down" threads, or many fine, disorganized vertical strands that are invisible to small flying insects, which crash into the threads and fall onto the sheet. The spiders run upside down on the underside of their webs and bite prey through the web. Some local species may vary the shape of the sheet web. One species, called the "bowl and doily" spider, weaves a cup-shaped web above the horizontal sheet and hangs from the bowl. Another, called the "filmy dome" spider, weaves a dome under which it lurks. (Pictured above is *Linyphia marginata*.)



cellar spiders

Pholcidae

Cellar spiders have extremely long, delicate legs and a narrow, elongated body. They hang upside down in a very loose web of disorganized threads on walls close to the ceiling of homes. After laying a cluster of about a dozen eggs, the female wraps it with a few strands of silk and carries it in her fangs. When threatened, many species rapidly gyrate in the web and become an almost invisible blur. It is an urban legend that these spiders are extremely poisonous.



jumping spiders

Salticidae

Jumping spiders are easily identified by their large eyes, squat bodies and sturdy legs. They are very intelligent, colorful spiders with distinct personalities. Jumping spiders have excellent vision and will often turn to look at you as you approach. They hunt during the day, eating insects and other spiders. They get their name from their ability to jump impressive distances while searching in vegetation or catching prey. Before jumping, these spiders will touch their abdomens to the ground to tack down their draglines. That way if they miss their destination, their spinnerets clamp the silk so they only fall a short distance. When jumping spiders see prey that they cannot jump onto directly, they are known to take a detour route through the vegetation to put them into a position above the intended prey. Male jumping spiders court females by moving their brightly colored chelicerae, palps or leg tufts. In autumn, many jumping spiders build silken retreats in goldenrod plants, windowsills, or mailboxes. (Pictured above is the common jumping spider, *Phidippus audax*.)

Are daddy-long-legs spiders?



Harvestmen

(or "daddy-long-legs")

and ticks are not true spiders, but spider relatives. All three types of animals are arachnids, but harvestmen and ticks have only one body segment, whereas spiders have two. Harvestmen have oval bodies and long, thin legs. They are omnivores that hunt small insects, scavenge on decaying material, or feed on plant juices. They do not have venom, but can produce a foul smelling scent. Ticks are external parasites that suck blood from reptiles, birds or mammals. They are typically flat with very short legs that barely protrude beyond the body. If they have recently taken a blood meal, the body may swell up to the size of a lima bean.



funnel web or grass spiders

Agelenidae Grass spiders build sturdy, non-sticky sheet webs with a few "knock down" threads on top of vegetation. One corner of the sheet tapers into a silken funnel where the spider waits facing outward for insect prey to land on the sheet. Once an insect lands, the spider dashes out on top of the sheet and bites the prey before it can take off again. Grass spiders are about three quarters of an inch long, with brown bodies and long conspicuous spinnerets. They can be spotted on low hedges or evergreen plantings around buildings. (Pictured above is the grass spider or funnel weaver, *Agelenopsis sp.*)



american house spider

Theridiidae – *Achaearanea tepidariorum*

The American house spider is the most commonly seen species of cobweb spider found around homes. Most cobweb spiders can be identified by their large, round, shiny abdomens, relatively thin legs, and their tendency to hang upside down in messy cobwebs that are attached to the structure by a few sticky threads. The webs are built where there is protection from the elements. Female cobweb spiders produce light brown, spherical egg sacs that hang in the web. The venomous black widow spider with its shiny, black abdomen and red hour-glass design is a cobweb spider, but is extremely rare in New York.



crab spiders

Thomisidae

Crab spiders get their name from the way they hold their legs out to their sides and walk with a crab-like scuttle. The first two pair of legs are often greatly enlarged, making them even more crab-like in appearance. These spiders do not build webs, but wait motionless for prey to come within close range. Many species hunt on flowers for insects, such as bees, flies, and butterflies, using their fast-acting, powerful venom to quickly paralyze them. Many crab spiders are capable of camouflaging themselves to match the flower's color by changing their color to white, yellow, or pink over several days. One of the best ways to find these spiders is to look on flowers for immobile insects situated at an odd angle. Upon closer inspection you will see the insect in the jaws of a crab spider.

nocturnal orb weaving spiders

Araneidae

Nocturnally active, these spiders build orb webs anywhere that night flying insects, such as moths, are active. Favorite locations are near porch lights or other well-lit areas. Most *Araneus* are brown, with two bumps on the front of their abdomens. The cross spider has a series of white spots on its abdomen in the shape of a cross. The marbled spider, *A. marmoreus*, is boldly patterned and lives in fields rather than around man-made structures. During the day, these spiders can be found hiding in a retreat made from a curled leaf tied together with silk. The retreat is generally located above the remains of the previous night's web, connected to it by a silk thread. (Pictured above is the cross spider, *Araneus diadematus*.)



wolf spider

Lycosidae

Wolf spiders are named for their tendency to be slightly furry, brown or grey spiders that run after their prey. They have long sturdy legs and good vision from two of their eight enlarged eyes. The abundant wolf spiders forage on the ground or in the lower parts of plants at night. Female wolf spiders carry light-colored, spherical egg sacs attached to their spinnerets. Once hatched, the spiderlings cling to hairs on their mother's abdomen for about a week. When you go out at night, look at the ground in front of you with a flashlight held next to your head at the same level as your eyes. You can see many silvery blue-green spots reflecting back at you from the eyes of numerous wolf spiders in the grass.