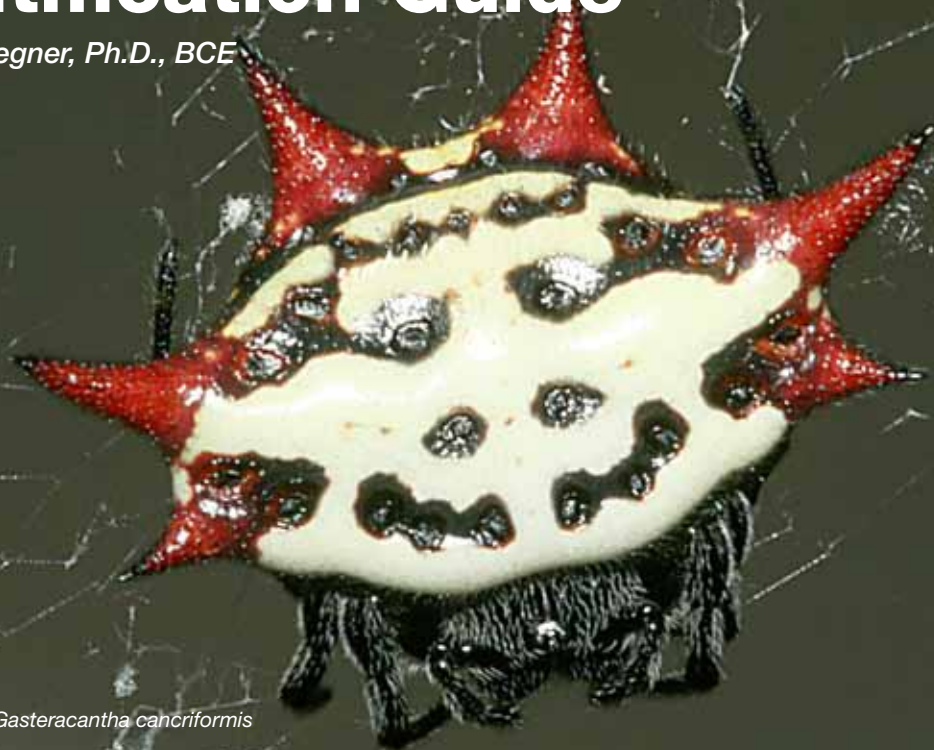


# Spider Identification Guide

*Gerald S. Wegner, Ph.D., BCE*



Spiny Orbweaver, *Gasteracantha cancriformis*

 **BASF**

The Chemical Company

# Table of Contents

Spider Facts: Frequently Asked Questions . . . . .	3-4	Jumping Spiders . . . . .	28-29
Spider Anatomy . . . . .	5	Wolf Spiders . . . . .	30-31
Spider Key . . . . .	6-7	Wandering Spiders . . . . .	32-33
Spider Management In and Around Buildings . . . . .	8-9	Nursery Web Spiders . . . . .	34-35
<b>Spiders</b>		Hackledmesh Spiders . . . . .	36-37
<i>Identification, Distribution, Biology and Pest Status</i>		Crevice Weavers . . . . .	38-39
Cobweb Spiders/Combfooted Spiders . . . . .	10-11	Funnelweavers . . . . .	40-41
Hourglass Spiders/Widows . . . . .	12-13	Cell Spiders & Tube Spiders . . . . .	42-43
Cellar Spiders . . . . .	14-15	Tarantulas/Hairy Mygalomorphs . . . . .	44-45
Brown Spiders/Violin Spiders . . . . .	16-17	Orbweaver Spiders . . . . .	46-47
Running Crab Spiders/Bark & Flower Crab Spiders . . . . .	18-19	Garden Spiders . . . . .	48-49
Giant Crab Spiders . . . . .	20-21	Longjawed Orbweavers & Orchard Orbweavers . . . . .	50-51
Sac Spiders . . . . .	22-23	Nephilid Orbweavers . . . . .	52-53
Ghost Spiders . . . . .	24-25	Biography/Acknowledgements . . . . .	54
Ground Spiders . . . . .	26-27	Photography Credits/References & Resources . . . . .	55

# Spider Facts: Frequently Asked Questions

## How do spiders differ from other arthropods?

All spiders have two body regions (cephalothorax and unsegmented abdomen), eight legs (each with seven segments), a pair of pedipalps, a pair of chelicerae (jaws) and either six or eight simple eyes.

## Are all spiders poisonous?

Yes - to their prey! All spiders have a pair of poison glands with ducts that supply venom to the hollow jaws (chelicerae). Spiders inject venom and/or digestive juices into live or recently-killed prey in order to feed. Relatively few spiders are dangerous to humans.

## Are harvestmen (garden daddy-long-legs) spiders?

No. Harvestmen, or garden daddy-long-legs (Order Opiliones), have three broadly-joined body regions (head, thorax, and a segmented abdomen), one pair of eyes and are non-venomous. They feed on vulnerable insects and plant juices.

## How many different spiders are there worldwide?

Over 37,000 species of spiders have been described worldwide.

## How many species of spiders are found in North America north of Mexico?

Nearly 1,000 species of spiders have been found in the continental U.S. and Canada, many of which were introduced from Europe.

## What is the largest spider?

The world's largest spider is the South American goliath bird-eating spider, *Theraphosa leblondi* (Mygalomorphae: Theraphosidae). Adults may attain a body length of 4.8 inches (12 cm), a leg span of nearly 13 inches (30 cm) and a body weight of 5.6 ounces (160 g).

## What is the smallest spider?

The smallest spiders on record belong to the Family Symphytognathidae. *Anapistula caecula* (Ivory Coast, West Africa) females have an adult body length of 0.018 inches (0.46 mm); while *Patu digua* (Columbia, South America) males have an adult body length of 0.015 inches (0.37 mm).

# Spider Facts: Frequently Asked Questions

## How well can spiders see?

All spiders have simple eyes. Most spiders have poor vision – merely able to distinguish light from darkness and nearby movement. However, some (e.g., jumping spiders) have excellent short-range vision and are able to distinguish shape and color.

## Which spider's venom is the most dangerous?

The bite and venom of the Sydney funnelweb spider, *Atrax robustus* (Mygalomorphae: Hexathelidae), of Australia is considered to be one of the most life-threatening. Some sources claim that certain Brazilian wandering spiders, *Phoneutria* species (Araneomorphae: Ctenidae), have the world's most toxic spider venom.

## How can you distinguish between female and male spiders?

Most female spiders have a copulatory portal called an epigynum, uniquely-shaped for each species, located centrally on the underside of the abdomen. Males have (species-unique) pedipalps with enlarged tips, giving them a boxing glove appearance. Females generally have larger bodies (especially abdomens) than males. Males of some families have the first pair of legs longer and/or more stocky and hairy in proportion to their size.

## Do all spiders spin webs?

Not all spiders spin webs for the purpose of capturing prey. Spiders may capture prey in three distinct ways: (1) ensnarement, assisted by a silken web comprised in part of sticky strands, (2) active hunting, while roaming about and exploring their surroundings, and (3) passive hunting – concealed or stealthily awaiting the approach of unwary prey.

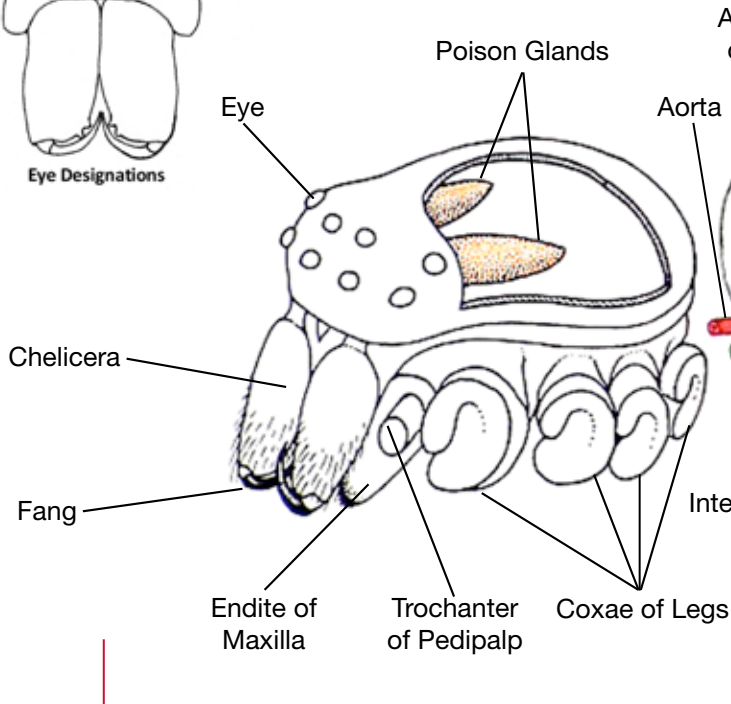
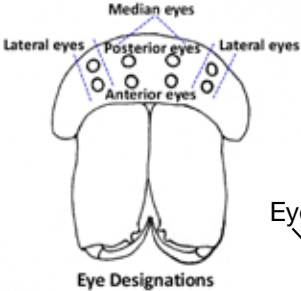
## How do spiders get on the roofs of tall buildings?

In order to disburse themselves from the egg sac, newly-hatched spiderlings of some species (e.g., orbweavers) make their way to an exposed perch and spin out long strands of silk, with which to catch a breeze. The airborne spiderlings “balloon” on air currents and updrafts until stopped by an obstacle. The first webs are constructed near the landing point, which may be miles away from and a considerable distance above, the point of origin.

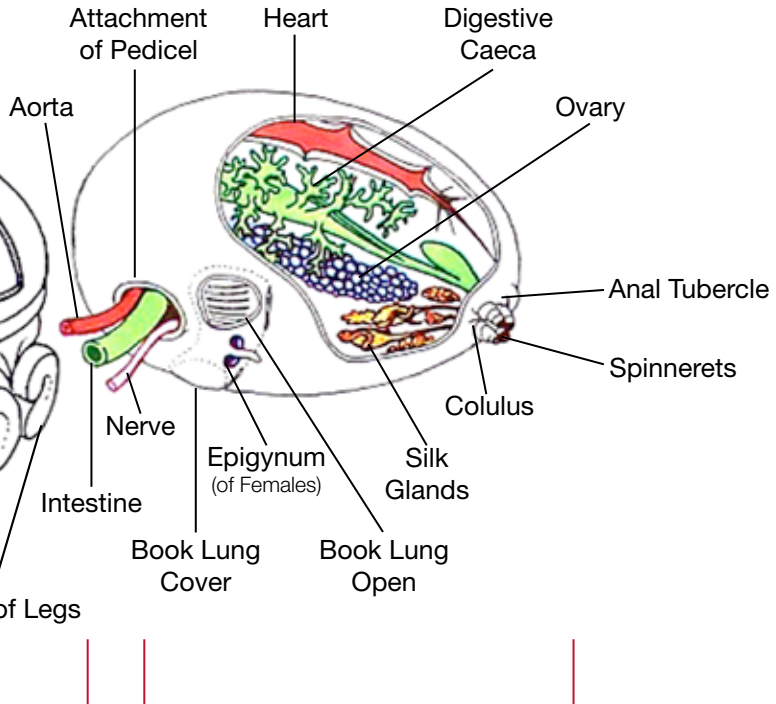
## How long do spiders live?

Some spiders live only one year (e.g., orbweavers), others may live two years (e.g., wolf spiders, nursery web spiders) and still others may survive into their twenties (i.e., some female tarantulas).

# Spider Anatomy



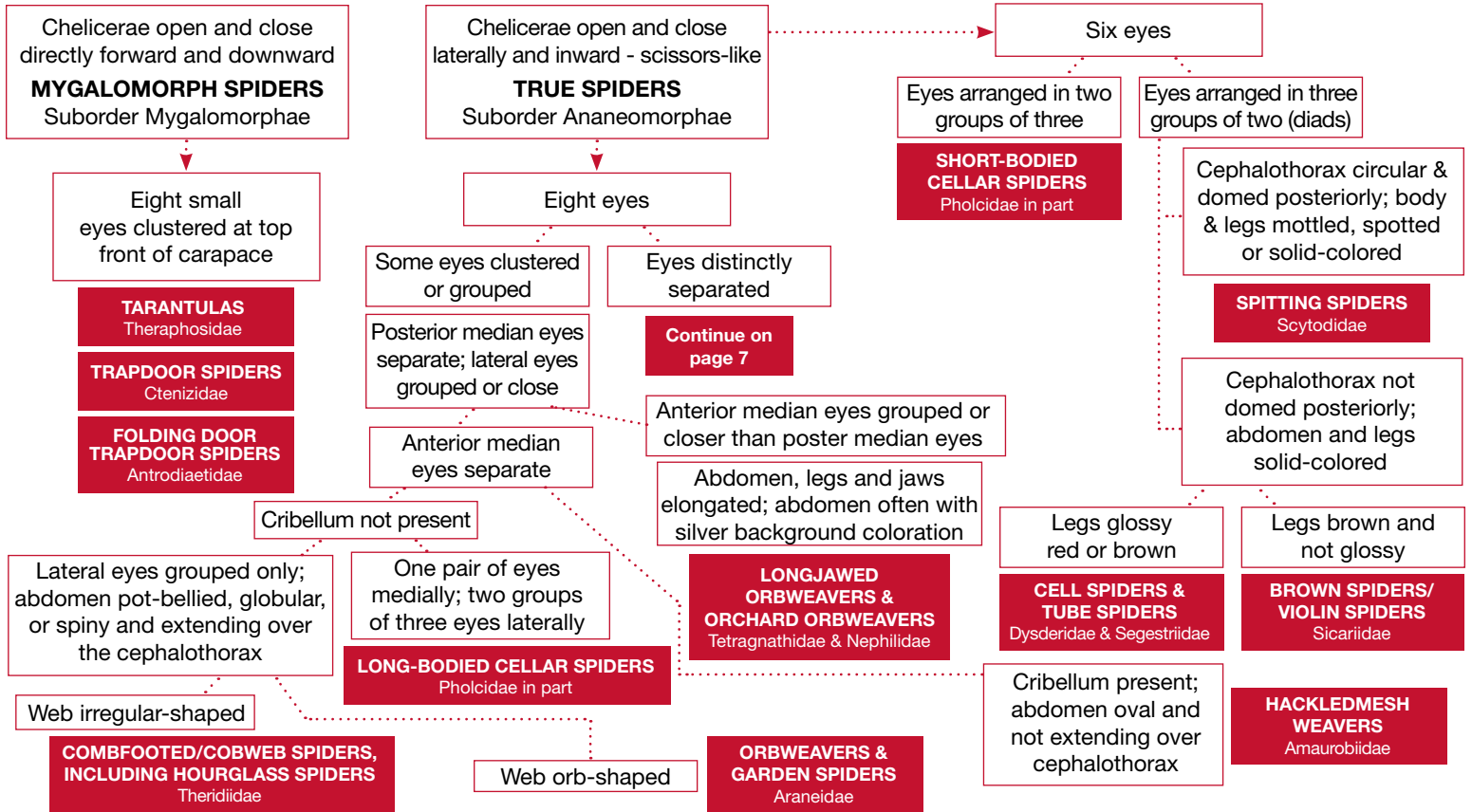
**Cephalothorax**



**Abdomen**

Adapted from Levi and Levi, 1990

# Illustrated Key to Peridomestic Spider Families



Eight eyes distinctly separated (continued from page 6)

All eyes appear close in size

Some eyes distinctly larger than others

Eyes arranged in two rows of four

Eyes arranged in flat oval or sideways "D" pattern

Lateral eyes noticeably larger than median eyes; legs curve forward; adults typically large

Cephalothorax and legs usually not hairy but have a slightly glossy or translucent appearance; spinnerets short

**SAC SPIDERS**  
Clubionidae, Miturgidae and Corinnidae

Two front pairs of legs curve forward; two rear pairs of legs curve backward while at rest; one pair of long spinnerets

**FUNNEL WEAVERS**  
Agelenidae

Three or four pairs of legs curve forward while at rest; spinnerets very short

**CRAB SPIDERS**  
Thomisidae  
Philodromidae

**GIANT CRAB SPIDERS/  
HUNTSMAN SPIDERS**  
Sparassidae

Anterior eyes larger than posterior eyes

Posterior eyes widely spaced

**JUMPING SPIDERS**  
Salticidae

Posterior eyes in a row

**CREVICE SPIDERS**  
Filistatidae

**GROUND SPIDERS**  
Gnaphosidae

Anterior spinnerets cylindrical, elongate and widely separated

Posterior eyes may be equal or posterior lateral eyes may differ in size from posterior median eyes

Posterior eyes larger than anterior eyes

Posterior eyes much larger than anterior eyes

Anterior eyes equal; posterior eyes equal

Posterior lateral eyes set back on carapace

Posterior eyes more closely spaced

**GHOST SPIDERS**  
Anyphaenidae

Anterior spinnerets conical and closely spaced; adults not large

Spinnerets very short; adults typically large

**NURSERY WEB & FISHING SPIDERS**  
Pisauridae

**WOLF SPIDERS**  
Lycosidae

**WANDERING SPIDERS**  
Ctenidae

# Spider Management In and Around Buildings

An integrated approach to spider management includes preparatory, cultural, physical/mechanical and chemical aspects:

## Preparation

A thorough inspection of the premises and structure(s) is the first step towards determining the scope of infestation and conditions conducive to spider entry. Spider specimens should be taken and identified to determine whether or not a threat to occupant health and well-being exists.

## Cultural Control

Those responsible for landscape management should prune tree and shrub branches away from structural surfaces to prevent spiders and other pests from bridging onto buildings. Likewise, tall vegetation, such as flowers, groundcover, ivy, turf grass and weeds, should be cut down and removed from along the foundation perimeter, porches and entrances of buildings. Stacks of firewood and other materials should be relocated away from buildings. Outdoor lighting on structures should be converted from white incandescent and mercury vapor lamps (attractive to insects – spider food) to yellow/amber incandescent and sodium vapor lamps (less attractive to nocturnal flying insects, thereby reducing prey for spiders).





### **Physical/Mechanical Control**

Those responsible for structural maintenance should perform repairs of damaged and loose-fitting doors, windows, screens, vents, roofing, flashing and exterior sheathing. These exclusion or pest-proofing measures are very important for preventing spiders and other pests from entering structures.

Sticky traps and pest monitors should be placed indoors along exterior walls of attached garages, basements, crawl-spaces and living spaces where spiders are active. Sticky monitors should be placed beneath furniture believed to be occupied by reclusive spiders. A shop vacuum or portable vacuum fitted with hose attachment can be used to remove spiders and webs from furniture, corners, sill plates, joists and other indoor structural features. A dusting tool fitted with telescoping handle can be used for web removal.

### **Chemical Control**

Exterior perimeter treatments of building foundations and upper structural recesses and features can be made with label-rate applications of residual liquid insecticides. Microencapsulate (ME/CS), suspended concentrate (SC) and wettable powder (WP, WSP) formulations currently provide acceptable long-term protection against invasive spiders. Indoor control of spider infestations will be enhanced with insecticide spot treatments directed at basement and crawlspace sill plates and upper corners of attached garages and living spaces. For this purpose, appropriate formulations of synergized pyrethrins or residual liquid insecticides should be applied as an aerosol (at close range) or fan spray from a pressurized sprayer, taking care to avoid contamination of non-target areas and surfaces. Additionally, structural voids can be injected with residual insecticide dusts that have been labeled for use against spiders. Residual insecticides formulated with botanical oils have been found to be briefly effective against spiders, post application to structures.

## COBWEB SPIDERS / COMBFOOTED SPIDERS *Family Theridiidae*

### Identification

Body 1/3 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped. Abdomen round. Color variable. Legs short and spindly.

### Distribution

More than 230 species of cobweb weavers occur in North America north of Mexico. The American house spider, *Parasteatoda* (previously *Achaearanea*) *tepidariorum*, triangulate cobweb spider, *Steatoda triangulosa*, northern cobweb spider, *Steatoda borealis*, and false black widow, *S. grossa*, rank among the most commonly-encountered spiders in and around buildings. *S. grossa* is similar to *S. borealis* but is an introduced species found mainly in southeastern and southwestern coastal states.

### Biology

Cobweb spiders rest upside-down in the middle of their small to medium-sized irregular webs in corners of porticos, eaves, garages, windows and all indoor areas. Some species hide in a corner or crevice at the web's edge. Females (larger than males) deposit their eggs in brown, papery silk sacs within the web. Depending on species and climate, theridiids may overwinter as eggs, immatures or adults. Continuous development has been observed in warm climates and indoors.

### Pest Status

The bite is similar to a pin-prick and, except for the related hourglass spiders, *Latrodectus* spp. (see HOURGLASS / WIDOW SPIDERS), the venom usually is not dangerous. Building occupants disdain the unsightly webs.



American House Spider  
*Parasteatoda tepidariorum*



Dr. David Shetlar

Northern Cobweb Spider  
*Steatoda borealis*



Dr. David Shetlar

Triangulate Cobweb Spider  
*Steatoda triangulosa*



Dr. David Shetlar

### Cobweb Spider/Combfooted Spider Eye Patterns



Top View

Front View

# HOURGLASS SPIDERS / WIDOWS *Family Theridiidae*

## Identification

Body 1/2 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped. Abdomen globular. Color variable. Legs spindly; not hairy-looking. A red or orange (sometimes yellow) hourglass marking is apparent on the ventral surface of the abdomen. In some specimens the hourglass is separated into two triangles pointing centrally. Females of the southern and western widows are completely black except for the hourglass and, in some cases, a small red spot just above the spinnerets. Female brown widows may be brown and yellowish-tan or nearly black, with the hourglass colored orange. The northern widow has three dorso-medial red spots on the abdomen.

## Distribution

Five species of hourglass spiders occur in North America north of Mexico: the black widow, *Latrodectus mactans*, western widow, *L. hesperus* (nearly identical to *L. mactans*, genetically), northern widow, *L. variolus*, brown widow, *L. geometricus*, and red widow, *L. bishopi* (rarely encountered and only in portions of central Florida). Widow spiders are most abundant in the South and Southwest. In northern climates, widows may overwinter as eggs in silk sacs or as immatures in protective settings.

## Biology

Like their relatives the cobweb spiders, hourglass spiders rest upside-down in their small to medium-sized irregular webs or hide in corners or crevices at the web's edge in recessed corners of structures. Outbuildings, sheds, pump and meter enclosures commonly are occupied, as are larger rodent bait stations at building foundation perimeters. Some species build webs under rocks, in hollow trees stumps and among tree bark. Females (larger than males) deposit their eggs in round or submarine mine-shaped silk sacs, within the web.

## Pest Status

The bite is similar to a pin-prick and the potent neurotoxic venom causes severe muscle cramping, fever and nausea which persist for a day or two. Death rarely results.



**Southern Black Widow**  
*Latrodectus mactans*



Dr. David Shetlar

**Brown Widow**  
*Latrodectus geometricus*



Dr. David Shetlar

**Northern Widow**  
*Latrodectus variolus*



### Hourglass Spider/Widow Eye Patterns



# CELLAR SPIDERS *Family Pholcidae*

## Identification

Body 1/10 - 1/3 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: *Pholcus* and *Physocyclus* spp. have eight small eyes closely grouped: the anterior median eyes are especially small and are separated; while the slightly larger anterior lateral eyes and posterior eyes form two triads (clusters of three eyes) on either side of the carapace. *Spermophora* spp. have six eyes grouped in two triads. Body brown, beige and gray, typically; *Spermophora* spp. pale and translucent. Legs long, spindly and banded at joints. The tailed cellar spider, *Crossoprisa lyoni*, is a more recently introduced species that occurs in the southeastern US.

## Distribution

The adult female long-bodied cellar spider, *Pholcus phalangioides*, has a body measuring 1/3 inch long. Of the 40 U.S. pholcid species, arguably it is the most frequently-encountered cellar spider in buildings. Often this species is referred to as a “daddy long-legs” by the general public; however, this common name contributes to confusion with the garden daddy-long-legs or harvestmen of Order Opiliones, which are not spiders. The round-bodied cellar spider, *Physocyclus globosus*, and short-bodied cellar spider, *Spermophora meridionalis*, are smaller (bodies 3/16 inch and 1/10 inch long, respectively) and occupy buildings as well.

## Biology

Long-bodied cellar spiders build their large, irregular webs in basements, crawlspaces, garages and dark corners of living and work spaces. They rest upside-down in their webs and will shake themselves quickly back and forth in their webs when disturbed. Females (larger than males) carry their round egg sacs in their jaws. Pholcids may overwinter as eggs, immatures or adults in sheltered settings in northern climates; however, continuous development has been observed in warm climates and indoors.

## Pest Status

The bite is not painful nor is the venom dangerous, contrary to urban myths being circulated via the Internet. Building occupants disdain the large, unsightly webs, which make excursions into basements, cellars and crawlspaces unpleasant.



## Long-Bodied Cellar Spider

*Pholcus phalangioides*



Dr. David Shetlar

## Round-Bodied Cellar Spider

*Physocyclus globosus*



W. Mike Howell and Ronald L. Jenkins

## Long-Bodied Cellar Spider Eye Patterns



Top View

Front View

## Round-Bodied Cellar Spider Eye Patterns



Top View

Front View

## BROWN SPIDERS / VIOLIN SPIDERS *Family Sicariidae*

### Identification

Body 1/3 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: six small eyes grouped in three diads (close pairs). Dark brown violin pattern on light brown carapace (most distinct in adults). Legs: long and slender. Abdomen: oval; light brown; not hairy-looking.

### Distribution

Three species in North America north of Mexico. The brown recluse, *Loxosceles reclusa*, and Mediterranean recluse, *Loxosceles rufescens*, are encountered most often in buildings in the South and where introduced sporadically in the northern U.S.

### Biology

Brown spiders rest in attics, crawl spaces, basements, wall voids, upholstered furniture, clothing, among items stored in cardboard boxes indoors and under stones in warm climates outdoors. Brown spiders prey on small, soft-bodied insects. They may entangle live prey on a small mat of sticky silk or they may wander at night (also dimly lit rooms during the day) and utilize recently-killed insects as food. Sicariids exhibit continuous development in warm climates and indoors. In northern climates, they may overwinter as eggs, immatures or adults in protective settings.

### Pest Status

Brown spiders may invade buildings from outdoors in warm weather and within their species range. They may also be carried into buildings in boxes, furniture and rolled carpets any time of the year. The bite is not painful but the venom is a potent cytotoxin, causing an enlarging necrotic sore that heals with difficulty. Many medical conditions routinely are misdiagnosed as loxoscelism, including secondary bacterial infections (e.g., MRSA lesion, syphilitic chancre), diabetes ulcers, Herpes sores/blisters, Erythema multiforme (allergic reaction to medication expressed dermally), Pyoderma gangrenosum (immune system dysfunction), Lymphomatoid papulosis (a cutaneous lymphoma-like eruption), localized vasculitis (inflammation of the blood vessels), and squamous cell carcinoma (a form of skin cancer).





**Brown Recluse**  
*Loxosceles reclusa*



Dr. David Shetlar

**Mediterranean Recluse**  
*Loxosceles rufescens*



G. Anderson

**Brown Spider/Violin Spider Eye Patterns**



*Top View*



*Front View*

# RUNNING CRAB SPIDERS *Family Philodromidae*

## BARK & FLOWER CRAB SPIDERS *Family Thomisidae*

### Identification

Body 1/10 - 1/2 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes in two rows or flat oval pattern; Abdomen: flat oval or irregular disc-shaped. Cephalothorax and abdomen appear smooth. Legs: with sparse hairs and spines on segments closer to body; front pair usually larger than hind pair; held crab-like with all four pairs or all but hind pair facing forward. Color: the misumenoid flower spiders (Thomisidae) often are brightly colored; while most other thomisid genera and philodromid crab spiders tend to be more subdued combinations of black, gray, white, brown, rust, beige and yellow. Thomisid crab spiders have the second pair of legs shorter than the first pair and include the colorful flower spiders, *Misumena*, *Misumenops* and *Misumenoides* spp. and the darker bark crab spiders of the genera *Xysticus*, *Bassaniana* and *Coriarachne*. Philodromid or running crab spiders have the second pair of legs longer than the first pair.

### Distribution

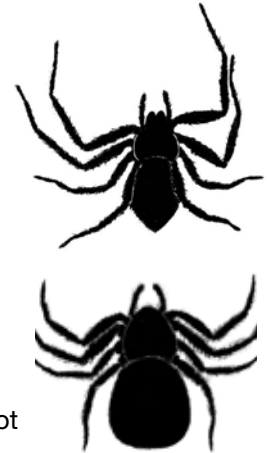
More than 200 species of crab spiders occur in North America north of Mexico.

### Biology

Crab spiders are passive hunters, waiting in ambush for prey and relying on their excellent camouflage. They await prey on flowers, leaves, bark, the ground, structural surfaces and in crevices. In most cases, crab spiders overwinter as eggs or immatures.

### Pest Status

Usually, crab spiders are associated with exterior surfaces of buildings and the landscape; although they occur indoors occasionally. Flower spiders may be brought indoors inadvertently on cut flowers. To the untrained eye, some philodromid species may be confused with sicariid brown spiders, in a resting posture. Bites are rare but may be compared to a pin prick or minor bee sting and the venom usually is not dangerous to humans.



### Running Crab Spider

*Philodromus praelustris*



### Common Running Crab Spider

*Philodromus vulgaris*



Dr. David Shetlar

### Variegated Bark Crab Spider

*Bassaniana versicolor*



Stephen Hurley and Caitlin Wyckoff

### Goldenrod Crab Spider

*Misumena vatia*



Dr. David Shetlar

### Running Crab Spider Eye Patterns



Top View



Front View

### Bark & Flower Crab Spider Eye Patterns



Top View



Front View

# GIANT CRAB SPIDERS *Family Sparassidae*

## Identification

Body 3/4 - 1 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: anterior and posterior median eyes small\*; anterior and posterior lateral eyes slightly larger. Abdomen: elongate-oval. Legs: long with hairs and spines. Color: brown and beige.

## Distribution

A few species of giant crab spiders occur in North America north of Mexico. The huntsman or housekeeping spider, *Heteropoda venatoria*, is common in Florida; the golden huntsman spider, *Olios fasciculatus*, occurs in the West and Southwest.

## Biology

Giant crab spiders actively hunt for prey (including cockroaches) at night. During the day they rest in crevices, both indoors and outdoors. These spiders are fast runners when disturbed. Sparassids are warm climate spiders exhibiting continuous development.

## Pest Status

The bite is similar to a bee sting but the venom usually is not dangerous to humans. Short-term swelling (purplish blotch) and soreness may persist for several days. At night these large spiders frequent walls and ceilings in homes that are not tight. They are not aggressive towards humans and are reluctant to bite.

\*The anterior median eyes of *Olios* spp. are relatively large.



## Huntsman-Housekeeping Spider

*Heteropoda venatoria*



Dr. David Shetlar

## Giant Crab Spider Eye Patterns



Top View



Front View

## SAC SPIDERS *Families Clubionidae, Miturgidae and Corinnidae*

### Identification

Body 1/10 - 1/2 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes grouped in two rows. Abdomen elongate-oval. Body and legs sparsely covered with small hairs or spines. Color: black, brown, tan or yellow; some species with light or dark markings. Many species lightly colored.

### Distribution

More than 200 species of sac spiders occur in North America north of Mexico. The agrarian sac spider, *Cheiracanthium inclusum* (native) and yellow sac spider, *Cheiracanthium mildei* (imported), occur across the U.S. and are the most structurally invasive sac spiders. *Cheiracanthium* species are considered by some specialists to be in the Family Clubionidae, and by others, in the Family Miturgidae. *Trachelas* species and most ant mimic spiders have been moved from the Family Clubionidae to the Family Corinnidae.

### Biology

Sac spiders actively hunt for prey at night. During the day they rest in silken retreats under stones, bark and folded leaves outdoors and in corners, folds in fabric and dark recesses indoors. Females guard their eggs within dense silken retreats. Sac spiders overwinter as subadults (final immature stage) outdoors in silk retreats beneath stones, logs and debris.

### Pest Status

Yellow sac spiders are active indoors year-round, where they are seen at night on walls and ceilings. Occasionally broad-faced spiders are encountered indoors. The bite is similar to a pin-prick but the venom usually is not dangerous to humans. Occasionally short-term swelling and soreness or a small necrotic wound may result. Secondary bacterial infections from bites are possible.



**Agrarian Sac Spider**  
*Cheiracanthium inclusum*



Tom Myers

**Yellow Sac Spider**  
*Cheiracanthium mildei*



Dr. David Shettler

**Broad-Faced Sac Spider**  
*Trachelas tranquillus*



Tom Murray

**Sac Spider Eye Patterns**



## GHOST SPIDERS *Family Anyphaenidae*

### Identification

Body 1/4 - 1/2 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped. Abdomen elongate with pair of long spinnerets. Color: brown and yellow, beige or greenish-yellow; some species with dark markings. Very similar to sac spiders (Families Miturgidae and Clubionidae).

### Distribution

A few species of ghost spiders occur in North America north of Mexico. The yellow ghost spider, *Hibana (Aysha) velox*, garden ghost spider, *Hibana gracilis*, and green ghost spider, *Wulfila albens* (prev. *alba*), occur in the southeastern U.S. and are common in Florida.

### Biology

Ghost spiders actively hunt for prey (insects and smaller spiders) at night. During the day they rest in silken retreats under stones, behind bark and in folded leaves outdoors; also in protected corners and crevices of buildings. Ghost spiders can be seen year-round in Florida and the South but are most abundant in spring and summer. In colder climates, they overwinter as immatures or subadults (final immature stage).

### Pest Status

The bite is similar to a pin prick or bee sting but the venom usually is not dangerous to humans. Occasionally short-term swelling and soreness or a small necrotic wound may result.





Garden Ghost Spider  
*Hibana gracilis*



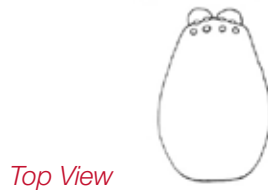
Renn Tumlinson

Yellow Ghost Spider  
*Hibana velox*



Dr. David Shetlar

### Ghost Spider Eye Patterns



Top View



Front View

## GROUND SPIDERS *Family Gnaphosidae*

### Identification

Body 1/2± inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped. Abdomen elongate with pair of long spinnerets. Legs and body of similar length. Legs and carapace may appear velvety or glossy. Color: black or brown; some species with light markings.

### Distribution

About 250 species of ground spiders occur in North America north of Mexico. The parson spider, *Herpyllus ecclesiasticus*, occurs in the eastern U.S. and is recognized easily by the characteristic white pattern on the black abdomen. The variegated ground spider, *Poecilochroa variegata*, is similar. The two-striped ground spider, *Cesonia bilineata*, with its paired longitudinal black stripes, looks superficially like a small grass spider (Agelenidae) or wolf spider (Lycosidae) but is free-wandering and has the spinnerets and eye pattern distinctive to gnaphosids. Rustic ground spiders, *Callilepis* species, have the cephalothorax and legs glossy reddish-orange and the abdomen with variable bluish-black or grayish-black bands or patches interspersed with tan.

### Biology

Some ground spiders actively hunt for prey at night and rest beneath stones and loose bark during the day while others spin small irregular webs beneath stones, bark and leaf litter. Females attach their disc-shaped white or pink egg sacs to surfaces in the concealed resting sites. Some species overwinter as adults while others overwinter as immatures.

### Pest Status

The bite is similar to a pin-prick or bee sting but the venom usually is not dangerous to humans. Occasionally some species are found on floors and walls indoors.



**Parson Spider**  
*Herpyllus ecclesiasticus*



Dr. David Shetlar

**Two-Striped Ground Spider**  
*Cesonia bilineata*



W. Mike Howell and Ronald L. Jenkins

### Ground Spider Eye Patterns

*Top View*



*Front View*



# JUMPING SPIDERS *Family Salticidae*

## Identification

Body 1/5 - 3/4 inch long and stocky. Jaws (chelicerae) move side to side, scissors-like. Eyes: four large anterior eyes, especially large median pair; four small posterior eyes, widely spaced. Vision excellent for discerning shape, color and movement. Abdomen: oval; covered with hairs. Various-colored markings on black, gray, brown or beige (rarely green) background. Legs: about as long or shorter than body; stocky with dense hairs and spines in most species; front pair (especially those of males) often larger than other legs. Some species are ant mimics.

## Distribution

About 300 species of jumping spiders occur in North America north of Mexico. Among the most encountered species around and in structures are the *Phidippus* jumping spiders (e.g., the daring jumper, *Phidippus audax*) and the zebra jumper, *Salticus scenicus*.

## Biology

Jumping spiders are active hunters, moving with short, quick hops. They stalk prey during the day on open surfaces. Males perform courtship “dances” for females prior to mating and often serve as a post-copulatory meal to hungry females. Concealed silken tube-like retreats serve as sites for molting, egg protection and overwintering. Depending on species and location, jumping spiders may overwinter as adults, immatures or sometimes as eggs.

## Pest Status

The bite is similar to a bee sting and the venom usually is not dangerous to humans. Jumping spiders are active on exterior walls and window screens; also on tree trunks, logs and rocks. Sometimes they hitchhike indoors on people and pets.



**Daring Jumper**  
*Phidippus audax*



Dr. David Shetlar

**Zebra Jumper**  
*Salticus scenicus*



### Jumping Spider Eye Patterns

*Top View*



*Front View*



## WOLF SPIDERS *Family Lycosidae*

### Identification

Body 1/4 - 1 1/3 inches long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: four anterior eyes small; posterior median eyes large; posterior lateral eyes smaller and set back. Abdomen elongate. Color: black, brown, tan, gray or yellowish; often with lighter or darker markings. Spinnerets are small. Legs long, fuzzy-looking and spiny; sometimes banded. Similar to nursery web spiders.

### Distribution

About 200 species of wolf spiders occur in North America north of Mexico. The largest native wolf spider is *Hogna carolinensis* but is rarely seen around structures. A large, structurally invasive wolf spider, *Tigrosa helluo*, is common in much of the U.S. Another rural peridomestic species, the rabid wolf spider, *Rabidosa rabida*, has a yellowish-tan base color with paired medium-brown stripes on the carapace and a medium-brown middorsal stripe, edged with black markings, on the abdomen. The dotted wolf spider, *Rabidosa punctulata*, is similar to *R. rabida* except the dorsal stripes are dark brown (nearly black) and the light colored, rounded underside of the abdomen is punctuated with black spots. The pirate wolf spiders, *Pirata* spp., and pardosas, *Pardosa* spp., are smaller wolf spiders that occur in rural settings.

### Biology

Wolf spiders actively hunt for prey on the ground and rest beneath stones and debris. Females carry their round, white egg sacs protectively attached to the spinnerets. Hatchling spiders ride piggy-back on their mother until old enough to fend for themselves. Wolf spiders may overwinter as eggs, immatures or adults in the wild. Activity may persist through winter indoors.

### Pest Status

Depending on the species, the bite is similar to a pin-prick or bee sting but the venom usually is not dangerous to humans. Temporary numbness or secondary bacterial infections from bites may occur. Larger species are among the most feared of invasive spiders due to their large size and hairy bodies.



## Field Wolf Spider

*Tigrosa helluo*



Dr. David Shetlar

## Rabid Wolf Spider

*Rabidosa rabida*



Dr. David Shetlar

## Wolf Spider Eye Patterns



Top View



Front View

## WANDERING SPIDERS *Family Ctenidae*

### Identification

Body 1/4 - 1 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: four anterior eyes small; four posterior eyes larger. Abdomen oval. Color: black, brown, tan, gray or yellowish; often with lighter or darker markings. Several tropical species have the “face” (anterior carapace), fangs (chelicerae) and sometimes the pedipalps colored some combination of red and black. The legs are long, fuzzy-looking and spiny. Wandering spiders are similar to nursery web spiders and wolf spiders in general appearance.

### Distribution

About 550 species of wandering spiders occur worldwide in the tropics and subtropics; but the American wandering spider (a.k.a. Florida false wolf spider), *Ctenus hibernalis* (possibly synonymous with *Ct. captiosus*), is the one representative found in and around homes built in wooded areas throughout peninsular Florida. It is large, dark brown and has a broad pale, full-length central pale to yellowish stripe. Two genera of wandering spiders that sometimes make their way into the U.S. from Central and South America, hiding in bunches of imported bananas and other cargo shipments, are *Cupiennius* (harmless or of questionable concern) and *Phoneutria* (potentially dangerous).

### Biology

Wandering spiders actively hunt for prey on the ground, vegetation and around structures. Adults are found in the spring and summer; large subadults are reported during fall and winter.

### Pest Status

The bite is similar to a bee sting and the cytotoxic-neurotoxic venom may cause a necrotic wound as well as disorientation and other (sometimes prolonged) neurological effects. Envenomation by some *Phoneutria* spp. can be fatal.





# American Wandering Spider

*Ctenus hibernalis*



W. Mike Howell and Ronald L. Jenkins

## Wandering Spider Eye Patterns



Top View



Front View

## NURSERY WEB SPIDERS *Family Pisauridae*

### Identification

Body 1/2 - 1 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: four small anterior eyes; four slightly larger posterior eyes. Abdomen elongate. Colored tan/beige and brown; often with gray and white markings. Legs long, fuzzy-looking and spiny; often banded. Similar to wolf spiders.

### Distribution

About 15 species of nursery web spiders occur in North America north of Mexico. The brown, yellow-tan and gray forest nursery web spiders, *Dolomedes tenebrosus* and *D. scriptus* and the brown, gray and white six-spotted fishing spider, *Dolomedes triton*, are large rural examples in the Midwest and eastern U.S.

### Biology

Nursery web spiders may rest motionless for hours, with their legs stretched outward, on sun-lit vegetation, tree trunks (especially near deep scars and hollows), building exteriors or the ground during the day. Those favoring lake and pond shoreline habitats rest on cattail stems and aquatic vegetation. Periodically they may hunt actively for prey. Females carry their round, white egg sacs protectively in their jaws. Pisaurids overwinter as subadults (final immature stage) and adults.

### Pest Status

The bite is similar to a bee sting but the venom usually is not dangerous to humans. The large size of these impressive spiders invokes fear responses in arachnophobes.



## Forest Nursery Web Spider

*Dolomedes tenebrosus*



Dr. David Shetlar

## Six Spotted Fishing Spider

*Dolomedes triton*



Tom Murray

## Nursery Web Spider Eye Patterns



Top View



Front View

## HACKLEDMESH WEAVERS *Family Amaurobiidae*

### Identification

Adult body 1/3 - 1/2 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight similar-sized eyes; anterior median pair more closely spaced than posterior median pair; anterior and posterior lateral eyes nearly joined. Cephalothorax mostly smooth with a glossy appearance. Abdomen: oval and velvety – covered with short hairs (setae). Color: reddish-brown to black with beige markings (*Amaurobius* and *Callobius* spp.) or yellowish-brown with gray markings (*Coras* spp). Legs: longer than body; hairs and spines sparse on leg segments close to body and more dense on outer leg segments. Anatomy similar to that of funnelweaver spiders (Agelenidae) and wolf spiders (Lycosidae) but have a cribellum (small, sieve-like plate in front of the spinnerets, on the underside of the abdomen) and a different eye pattern.

### Distribution

83 species of hackledmesh weavers occur in North America north of Mexico. Among the most encountered species in and around structures are the medicinal web spider, *Coras medicinalis* (previously placed in Family Agelenidae), black lace-weaver, *Amaurobius ferox*, and Bennett's hackledmesh weaver, *Callobius bennetti*.

### Biology

Hackledmesh weavers prefer cool, dark settings near ground level. They rest and ensnare prey on loose, coarse webs spun outdoors under logs, stones and debris piles and indoors in dark corners and under objects on floors in garages, basements, crawlspaces, boiler rooms and tunnels. Silk may be bluish in color. Eggs usually are produced in mid-summer. Hackledmesh weavers overwinter as adults or subadults (final immatures) in outdoor settings.

### Pest Status

Can be alarming when discovered indoors. Sometimes captured on sticky traps. The bite is similar to a bee sting and the venom usually is not dangerous to humans.



**Bennett's Hackledmesh Weaver**  
*Callobius bennetti*



Tom Murray

**Black Lace-Weaver**  
*Amaurobius ferox*



Tom Murray

**Medicinal Web Spider**  
*Coras medicinalis*



Tom Murray

**Hackledmesh Weaver Eye Patterns**



Top View



Front View

## CREVICE WEAVERS *Family Filistatidae*

### Identification

Body 1/3 - 3/4 inch long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped atop a darker, teardrop-shaped raised area on the carapace. Four anterior eyes slightly larger than four posterior eyes. The anterior lateral eyes are forward of the anterior median eyes; while the posterior eyes are in a row. The legs are long and velvety and the pedipalps are noticeably long. The carapace is shiny with sparse hairs. The abdomen is oval and has a velvety appearance. Males are smaller, have longer, thinner legs and are colored yellowish brown to darker brown; while females are larger, stockier and colored grayish brown to charcoal gray. Crevice weavers have a cribellum (small, sieve-like plate in front of the spinnerets, on the underside of the abdomen). Females have a calamistrum (metatarsal comb on the fourth pair of legs) but lack an epigynum (small, hardened plate with paired genital openings ventro-medially on the abdomen).

### Distribution

Seven or more species comprise three genera of crevice weaver spiders in the southern and southeastern U.S. The most-encountered species in and around human dwellings and barns is the crevice spider (a.k.a. southern house spider), *Kukulcania* (formerly *Filistata*) *hibernalis*. Filistatids are warm climate spiders exhibiting continuous development.

### Biology

Crevice weavers create prominent, coarsely-hackled, circular webs surrounding a central opening to the tubular retreat. During the day crevice weavers are in their retreats.

### Pest Status

Crevice weavers prefer to occupy the exterior walls of rustic outbuildings, barns, and abandoned and unkempt homes, as well as undisturbed attics and basements. The large size of these spiders may be distressing to arachnophobes. The bite may be similar to a bee sting but the venom is not considered to be dangerous to humans.



## Southern House Spider

*Kukulcania hibernalis*



## Crevice Weaver Eye Patterns



## FUNNELWEAVERS *Family Agelenidae*

### Identification

Body 1/2 - 3/4 in. long. Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes closely grouped in a flattened oval or sideways “D” pattern. Abdomen elongate with a pair of long spinnerets. Colored yellowish-tan and brown. Legs long, fuzzy-looking and spiny, ending in three claws.

### Distribution

About 300 species of funnelweavers occur in North America north of Mexico. Several species are European in origin. The grass spiders, *Agelenopsis*\* and *Agelena* species and barn funnelweaver (a.k.a. European house spider or domestic funnelweaver), *Tegenaria domestica*, are commonly found in and around buildings. The hobo spider, *Eratigena agrestis*, occurs in the Pacific Northwest and has a (debatable) reputation for being aggressive.

### Biology

Funnel weavers rest inside the tubular corner of their funnel-shaped webs during the day. At dusk, the spiders place themselves on the outer triangular sheet-like portion of the webs. Webs may be found close to building foundations outdoors on shrubs, ivy, tall grass, decks, and in window wells and recessed vents. Indoors, webs are found in the corners of garages, basements and crawlspaces. On occasion, relocating females and males searching for mates may be found wandering about or resting beneath items on basement and garage floors. Funnelweavers overwinter as eggs in the wild; however, development and activity may be observed indoors, year-round.

### Pest Status

The bite is similar to a pin-prick or bee sting and the cytotoxic venom of some species may cause necrotic skin lesions. Secondary bacterial infections from bites are possible.

[\*e.g., *Agelenopsis pennsylvanica*, which is peridomestic.]





## Hobo Spider

*Eratigena agrestis*



## Barn Funnelweaver

*Tegenaria domestica*



Dr. David Shetlar

## Grass Spider

*Agelenopsis pennsylvanica*



Dr. David Shetlar

## Funnelweaver Eye Patterns



Top View

Front View

## CELL SPIDERS & TUBE SPIDERS *Families Dysderidae & Segestriidae*

### Identification

Body 1/2 inch long. Jaws (chelicerae) are long and move side to side, scissors-like. Eyes: six small eyes closely grouped in three pairs (diads), forming a tight triangle. Abdomen underside has four respiratory slits, arranged in pairs on either side.

### Distribution

A few cell spider species and six species of tube spiders occur in North America north of Mexico. The woodlouse hunter, *Dysdera crocata* and the brown tube spider, *Ariadna bicolor*, are most often encountered.

### Biology

Woodlouse hunters live under stones, logs, bark, etc. Some species hunt at dusk by sense of touch. Others trap prey on sticky strands that radiate from the tubular silken retreat. They prey on sowbugs, pillbugs, beetle larvae, crickets and earwigs. Dysderids and segestriids typically overwinter as adults in protective settings.

### Pest Status

Woodlouse hunters may be found close to building foundations, in basements and crawlspaces, and under landscaping features. The bite can be painful but the venom usually is not dangerous. Secondary bacterial infections from bites are possible.



## Brown Tube Spider

*Ariadna bicolor*



Gayle & Jeanell Strickland

## Woodlouse Hunter

*Dysdera crocata*



Dr. David Shetlar

## Cell Spider & Tube Spider Eye Patterns



Top View



Front View

# TARANTULAS / HAIRY MYGALOMORPHS *Family Theraphosidae*

## Identification

Large spiders; body 1 1/2 - 2 inches. Jaws (chelicerae) move up and down, opening forward. Eyes: eight small eyes grouped in a cluster. Body and legs usually hairy. Color: mostly black, brown and beige in North America north of Mexico. Body and legs usually hairy. Representative species of the Southwest are the Mexican redrump (black velvet) tarantula, *Brachypelma vagans* (also in Florida), desert (Arizona) blonde tarantula, *Aphonopelma chalcodes*, Texas brown tarantula, *Aphonopelma hentzi*, and California desert (ebony) tarantula, *Aphonopelma eutylenum*. Similar families: smaller, reclusive mygalomorphs, rarely encountered on developed properties, are the trapdoor spiders (Families Ctenizidae and Cyrtaucheniidae), folding door trap-door spiders (Family Antrodiaetidae), and purseweb spiders (Family Atypidae). Females measure 3/4 - 1 1/3 inches long; legs shorter than body; cephalothorax and legs smooth and shiny or sparingly setose-spiny; abdomen velvety, smooth, finely wrinkled or ridged.

## Distribution

40 species in the U.S.; occur mostly in the Southwest.

## Biology

Tarantulas in the U.S. live on the ground and in burrows. They hunt at dusk by sense of touch. Tarantulas spin mats of silk and may line their burrows with silk. They prey on insects, other arthropods, small reptiles, young mice and are most commonly found in early fall. Tarantulas are long-lived (especially females) and survive cold weather in protective settings as juveniles and adults.

## Pest Status

Occasionally tarantulas enter open structures and may be found under landscaping features. They defend themselves by “throwing” hairs (quickly rubbing urticating setae from the abdomen using the hind legs), assuming a threatening posture (with forelegs, pedipalps and chelicerae uplifted menacingly), lunging and biting. The bite can be painful but the venom (of U.S. species) is not considered to be dangerous. Secondary bacterial infections from bites are possible.



**Mexican Redrump  
(Black Velvet) Tarantula**  
*Brachypelma vagans*



Rick C. West

**Desert (Arizona)  
Blonde Tarantula**  
*Aphonopelma chalcodes*



**California Desert  
Tarantula**  
*Aphonopelma eutylenum*



Rick C. West

**Texas Brown  
Tarantula**  
*Aphonopelma hentzi*



Rick C. West

### Tarantula/Hairy Mygalomorph Eye Patterns



Top View



Front View

# ORBWEAVER SPIDERS *Family Araneidae*

## Identification

Body 1/3 - 1 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes widely grouped. Abdomen round to heart-shaped. Color variable. Legs usually banded and spiny.

## Distribution

About 180 species of orbweavers occur in North America north of Mexico. The barn spider, *Araneus cavaticus*, shamrock spider, *A. trifolium*, marbled orbweaver, *A. marmoreus*, cross spider, *A. diadematus*, tropical orbweaver, *Eriphora ravilla*, and furrow spiders, *Larinioides cornutus* and *L. patagiatus*, are among the most commonly encountered orbweavers on buildings and landscaping. (The garden spiders of the Genus *Argiope* are discussed separately.)

## Biology

Orbweavers rest head-down in the center or in sheltered corners of their large orb-shaped webs. The webs are constructed at night across porch balustrades, posts, doorways, windows and between branches. Females (larger than males) deposit their eggs in large papery silk sacs, within the web in early autumn. Most species overwinter as eggs and the young emerge in spring. Spiderlings disperse by spinning out long strands of silk and riding on the wind in a process called “ballooning”. As a result of strong updrafts, orbweavers can be carried to the tops of tall buildings, where abundant webs may be observed, especially around lighting, in summer and fall. Some species overwinter as immatures and adults.

## Pest Status

The bite is similar to a bee sting but the venom usually is not dangerous. Building occupants find the webs unsightly and often are frightened by these large spiders during late summer.

## Addenda

The small spiny orbweavers of *Gasteracantha* and *Micrathena* occur in wooded settings (p. 47B). The trashline orbweavers, *Cyclosa turbinata*, *C. conica* and *Alloccyclosa bifurca* (p. 47C) can be locally abundant on structures.



**Barn Spider**  
*Araneus cavaticus*



Tom Murray

**Furrow Spider**  
*Larinioides cornuta*



Dr. David Shetlar

**Marbled Orbweaver**  
*Araneus marmoreus*



Dr. David Shetlar

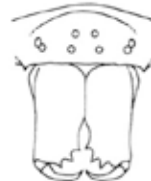
**Shamrock Spider**  
*Araneus trifolium*



### Orbweaver Eye Patterns



Top View



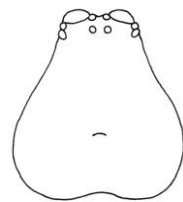
Front View

**Arboreal Orbweaver**  
*Neoscona crucifera*

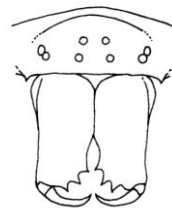


**Orbweaver Eye Patterns**

Dr. David Shetlar



*Top View*



*Front View*



**Spiny Orbweaver**  
*Gasteracantha cancriformis*



Dr. David Shetlar

**Arrowshaped Micrathena**  
*Micrathena sagittata*



Dr. David Shetlar

**White Micrathena**  
*Micrathena mitrata*



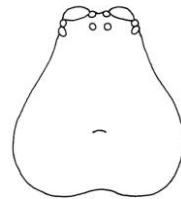
Dr. David Shetlar

**Spined Micrathena**  
*Micrathena gracilis*

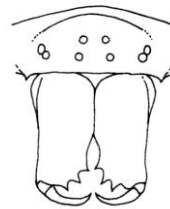


Dr. David Shetlar

**Orbweaver Eye Patterns**



*Top View*



*Front View*

**Conical Trashline Orbweaver**

*Cyclosa turbinata*



Dr. David Shetlar

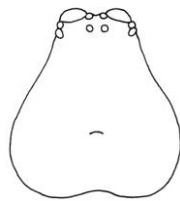
**Bifurcate Trashline Orbweaver**

*Alloctyclosa bifurca*

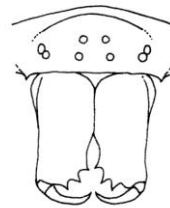


Dr. David Shetlar

**Orbweaver Eye Patterns**



*Top View*



*Front View*

---

## Bifurcate Trashline Orbweaver Web



Elizabeth Wegner



Ben Kolstad

## GARDEN SPIDERS *Family Araneidae, Genus Argiope*

### Identification

Body 2/3 - 1 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes widely grouped. Abdomen oval to shield-shaped with yellow, black and silver-white patterns. Legs banded.

### Distribution

The two most common garden spiders that occur in North America are the black and yellow argiope or golden garden spider, *Argiope aurantia*, and banded garden spider/argiope, *A. trifasciata*. The silvered garden spider or silver argiope, *A. argentata*, inhabits the South and Southwest, from Florida to California. The Hawaiian argiope/garden spider, *Argiope appensa*, has a pentagon-shaped abdomen and a very ornate black and white pattern on its cephalothorax. This species not only inhabits the Hawaiian Islands but Taiwan, Indonesia-New Guinea and the Mariana Archipelago as well.

### Biology

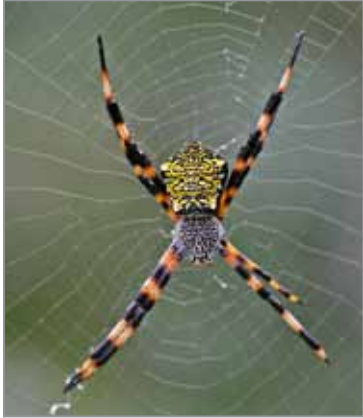
Garden spiders rest head-down in the center of their large orb-shaped webs. Garden spiders typically create a dense, zigzag pattern (stabilimentum) of sticky silk near the center of their webs. The webs are constructed at night between branches, tall woody-stemmed weeds and sometimes on buildings and other manmade structures. Females (larger than males) deposit their eggs in large papery silk sacs, within the web in early autumn. Eggs overwinter and the young emerge in spring.

### Pest Status

The bite is similar to a bee sting but the venom usually is not dangerous. Homeowners and building occupants find the webs unsightly and often are frightened by these large spiders during late summer and autumn.



**Hawaiian Argiope**  
*Argiope appensa*



Bryan Jones

**Silvered Argiope**  
*Argiope argentata*



Tom Murray

**Banded Argiope**  
*Argiope trifasciata*



Dr. David Shetlar

**Black & Yellow Argiope**  
*Argiope aurantia*



Dr. David Shetlar

### Garden Spider Eye Patterns

Top View



Front View



# LONGJAWED ORBWEAVERS & ORCHARD ORBWEAVERS

## *Family Tetragnathidae*

### Identification

Body 1/3 inch long (*Leucauge* species ♀) to 1/2 inch long (*Tetragnatha* species). Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes. The orchard orbweavers of Genus *Leucauge* have the lateral eyes grouped as well as the anterior median pair; while longjawed orbweavers of the genera *Tetragnatha* and *Pachygnatha* have the eyes more widely spaced. Abdomens of tetragnathids are elongate oval. North American *Leucauge* spp. are black, silvery-white, yellow, orange, brown and green. Legs are long, slender, spiny and translucent. *Tetragnatha* species are mainly brown, yellow and silver and rest with legs held together frontward and rearward.

### Distribution

About 170 *Leucauge* species occur worldwide and are most abundant in tropical and subtropical regions. The mabel orchard spider, *Leucauge venusta*, (syn. *L. mabelae*), is found in the eastern U.S. A slightly larger, less colorful orchard spider, *Leucauge argyra*, occurs in Florida but is less frequently encountered than *L. venusta*. About 250 *Tetragnatha* and *Pachygnatha* spp. occur worldwide, over a dozen of which can be found in North America. The guatemalan longjawed orbweaver, *T. guatemalensis*, can be sporadically abundant in the eastern, southeastern, southwestern and lower midwestern U.S.

### Biology

Orchard orbweavers rest upside-down in the middle of their horizontal or angled orb-shaped webs. The webs are constructed at night among tall vegetation and on protected structural features. These common spiders may be found year-round in warm climates. In northern climates, tetragnathids overwinter as eggs or immatures, depending on the species.

### Pest Status

The bite is similar to a pin-prick or bee sting and usually is not dangerous. Orchard orbweavers and their webs often occur shrubs by buildings and on sheltered exterior features of buildings. *Tetragnatha* and *Pachygnatha* spp. prefer identical settings close to water. *T. guatemalensis*, where numerous, can create massive communal webs.



## Mabel Orchard Spider

*Leucauge venusta*



## Longjawed Orbweaver

*Tetragnatha guatemalensis*



Dr. David Shetlar

## Orchard Orbweaver Eye Patterns



Top View

Front View

## Longjawed Spider Eye Patterns



Top View

Front View

# NEPHILID ORBWEAVERS

## *Family Nephilidae*

### Identification

Body 3/4 to 1 inch long (♀). Jaws (chelicerae) move side to side, scissors-like. Eyes: eight small eyes. Nephilid spider eyes are grouped like those of tetragnathid spiders. This similarity, in addition to the presence of massive, somewhat elongate chelicerae and an elongate abdomen, caused nephilids to be placed with the tetragnathid longjawed orbweavers until recently. Adult females may have a leg span of three inches or more. Tufts of long hairs (setae) on the femur and tibia segments of the legs, near the outer joints, give these large spiders a “fuzzy-kneed” appearance. The golden silk orbweaver, *Nephila clavipes*, has a mainly silvery-white carapace, dotted with black and having a black face and jaws. The abdomen is golden yellow, symmetrically dotted with small white spots. The legs are yellow and black. The large orb webs may span several feet from tree to tree. The silk is a unique golden color. At first glance, nephilid orbweavers look much like the large garden spiders of family Araneidae.

### Distribution

Although several *Nephila* species occur worldwide, the most-encountered New World species is the golden silk orbweaver, *Nephila clavipes*. This species is common in tropical and subtropical South, Central and North America. It is found sporadically in the Southeastern U.S. Localized populations may be large in the preferred settings.

### Biology

Nephilid spiders prefer undisturbed wooded settings bordered by low vegetation, marshy areas and bodies of water. Sometimes webs are constructed among trees and shrubs near buildings. Like the *Argiope* garden spiders, nephilid females await prey suspended in the middle of the large orb webs. Soft-bodied flying insects comprise the primary diet of these spiders. Successive generations occur in the tropics.

### Pest Status

Can be alarming when discovered abruptly near buildings or encountered, mid-web and mid-trail, by walkers and joggers. Bites resulting from accidental encounters are not considered to be dangerous but may be painful -- similar to a bee sting.





## Golden Silk Orbweaver

*Nephila clavipes*



Dr. David Shetlar

## Nephilid Orbweaver Eye Patterns



Top View



Front View

## Gerry Wegner, Ph.D., B.C.E.

Gerry Wegner received his bachelor's and master's degrees in biology from Loyola University of Chicago (1973, 1975) and his doctorate in entomology from the Ohio State University in 1980. His Ph.D. project dealt with insect pests of turfgrass. Wegner worked as a collector and supplier of paper wasps and yellowjackets for use in the manufacture of pharmaceuticals during the years of 1978 through 1980. He started with Varment Guard Environmental Services, Inc. in 1985 as staff entomologist and pest management sales/service representative. In 1987, Wegner became a co-owner and vice president of Varment Guard while assuming his current role as technical/training director and integrated pest management consultant. His pursuits include studies on the biology and IPM of structure-infesting ants, bees, wasps, termites and spiders, biological control, delusory parasitosis, as well as field-testing new pest management products. Wegner is an invited speaker on these topics at pest management conferences and applicator recertification schools at both national and state levels. Wegner's interest in spiders began in the early 1990s when he sought information about spiders often encountered in and around buildings, only to be frustrated by a blatant lack of information about spiders in reference materials available to the structural pest management industry. At first, Wegner focused his attention on two of the most frequently encountered peridomestic species – the yellow sac spider, *Cheiracanthium mildei*, and agrarian sac spider, *Cheiracanthium inclusum*, with the goal of bringing the information obtained to other pest management professionals. Since then, Wegner has continued to observe and collect specimens of the various species of spiders found in and around buildings and enjoys sharing his findings (including dispelling myths about spider bites) with fellow PMPs and clients alike.



## Acknowledgements

I wish to thank the following individuals for providing valuable information used in this publication: Dr. Richard Bradley, Associate Professor, Department of Evolution, Ecology & Organismal Biology, The Ohio State University; Dr. G. B. Edwards, Curator of Arachnids and Myriapods, Florida Department of Agriculture and Consumer Services, Division of Plant Industry; and Mr. Richard Vetter, Staff Research Associate, Department of Entomology, University of California Riverside. The spider family silhouettes and spider anatomy illustration were modified from artwork in Levi and Levi 1990. Last but not least, I wish to express my gratitude to BASF Pest Control Solutions. Without their help, this publication would not have been possible.

## Photography Credits

Dr. David Shetlar, BCE, Professor, Department of Entomology, The Ohio State University, for automontage images of *Philodromus vulgaris*, *Misumena vatia*, *Phidippus audax*, *Salticus scenicus*, *Heteropoda venatoria*, *Hibana velox*, *Cheiracanthium mildei*, *Herpyllus ecclesiasticus*, *Callilepis pluto*, *Hogna helluo*, *Rabidosa rabida*, *Dolomedes tenebrosus*, *Agelenopsis naevia*, *Tegenaria domestica*, *Leucauge venusta*, *Araneus marmoreus*, *Larinioides cornuta*, *Argiope aurantia*, *Argiope trifasciata*, *Latrodectus mactans*, *Latrodectus variolus*, *Latrodectus geometricus*, *Parasteatoda tepidariorum*, *Steatoda triangulosa*, *Steatoda borealis*, *Pholcus phalangioides*, *Loxosceles reclusa*, *Dysdera crocata*, *Nephila clavipes*, *Gasteracantha cancriformis*, *Micrathena sagittata*, *Micrathena mitrata*, *Micrathena gracilis*, *Cyclosa turbinata*, *Allocyclosa bifuca*.

Stephen Hurley and Caitlin Wyckoff for *Bassaniana versicolor*.

George C. Anderson for *Loxosceles rufescens*.

Gayle & Jeanell Strickland for *Ariadna bicolor*.

Tom Murray for *Amaurobius ferox*, *Callobius bennetti*, *Coras medicinalis*, *Trachelas tranquilis*, *Argiope argentata*, *Dolomedes triton*, *Araneus cavaticus*, *Araneus trifolium*.

W. Mike Howell and Ronald L. Jenkins for *Physocyclus globosus*, *Ctenus hibernalis* and *Cesonia bilineata*. [See Howell, W.M. and R.L. Jenkins 2004 in References and Resources].

Renn Tumlinson for *Hibana gracilis*.

Rick C. West for *Brachypelma vagans*, *Aphonopelma chalcodes*, *Aphonopelma eutylum*, *Aphonopelma hentzi*.

Bryan Jones for *Argiope appensa*.

## References & Resources

Bradley, R.A. 2004. In Ohio's Back Yard: Spiders. Backyard Series No. 4. Ohio Biological Survey, Columbus, OH. vi + 185 pp.

Edwards, G.B. and S. Marshall. 2001. Florida's Fabulous Spiders. World Publications, Tampa, FL. 65 pp. ISBN 0-911977-21-X.

Hedges, S.A. and M.S. Lacey. 1995. Field Guide for the Management of Urban Spiders. Franzak & Foster Co., Cleveland, OH. 220 pp.

Howell, W.M. and R.L. Jenkins. 2004. Spiders of the Eastern United States: A Photographic Guide. Pearson Education, Boston, MA. 363 pp. ISBN 0-536-75853-0.

Jackman, J.A. 1999. A Field Guide to Spiders & Scorpions of Texas. Taylor Trade Publishing/Rowman & Littlefield Publishing Group, Lanham, MD. xiv + 202pp. ISBN 0-89123-048-3.

Levi, H.W. and L.R. Levi. 1990. Spiders and Their Kin. Golden Press, New York, NY. Western Publishing Co., Inc., Racine, WI. 160 pp. ISBN 0-307-24021-5.

Mabel Orchard Orbweaver, *Leucauge venusta*



Always read and follow label directions.

[PestControl.basf.us](http://PestControl.basf.us) • 800-777-8570

© 2011 BASF Corporation. All rights reserved.

2/2011 11-21-155-116