

WESTERN BLACK WIDOW SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Theridiidae	<i>Latrodectus</i>	<i>hesperus</i>

Range:	Warmer regions of the world to a latitude of about 45 degrees N. and S. Occur throughout all four deserts of SW U.S.
Habitat:	On the underside of ledges, rocks, plants and debris, wherever a web can be strung, dark secluded places
Niche:	Carnivorous, nocturnal
Diet:	Wild: small insects Zoo:



Special Adaptations: The widow spiders construct a web of irregular, tangled, sticky silken fibers (cobweb weaver). This spider very frequently hangs upside down near the center of its web and waits for insects to blunder in and get stuck. Then, before the insect can extricate itself, the spider rushes over to bite it and wrap it in silk. If the spider perceives a threat, it will quickly let itself down to the ground on a safety line of silk. They produce some of the strongest silk in the world. This species has a special “tack” on back legs to comb silk which makes it soft and fluffy. Black widows make tiny loops in web to trap insects.

Other: This species is recognized by red hourglass marking on underside. The female black widow's bite is particularly harmful to humans because of its unusually large venom glands. Black Widow is considered the most venomous spider in North America. Only the female Black Widow is dangerous to humans; males and juveniles are harmless. The female Black Widow will, on occasion, kill and eat the male after they mate. Male must put their opisthosoma directly in front of the female's chelicerae to be in the right position for copulation. The female is twice the size of the male, but has shorter legs.



CALISOGA SPIDER or FALSE TARANTULA

Class	Order	Family	Genus	Species
Arachnida	Araneae	Nemesiidae	<i>Calisoga</i>	<i>longitarsus</i>

Range:	California and Nevada, common throughout bay area
Habitat:	Chaparral, grassland scrub, forests
Niche:	Terrestrial - burrow, carnivorous
Diet:	Wild: flying insects Zoo:



Special Adaptations: Chelicerae, with their fangs, are perpendicular to the bodyline, unlike the tarantula. A duct from a poison gland opens from the base of each fang. The mouth and jaws are on the underside of the head area (cephalothorax). Spinnerets - a pair of these silk producing structures are located at the tip of the abdomen. Mature males can be differentiated from females due to the presence of a hook on each of their first pair of legs.

Other: Males become sexually mature after their last molt and die after one mating season. The females live longer than the males and continue to molt about once a year after becoming sexually mature. Mating season is in the fall and this is the times when these spiders are most likely to be found wandering about. Calisoga spiders are similar in appearance and movement to tarantulas. However, they are not quite as hairy and the pubescence is more similar to velvet. They are also smaller and are unable to climb smooth surfaces. They are somewhat aggressive and will rear back to position fangs for a strike when threatened. They have a painful bite if handled.

JUMPING SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Salticidae	<i>Phidippus</i>	<i>clarus</i>

Range:	Found typically in tropic regions.
Habitat:	Variety of habitats: mainly tropical forests, but also found in temperate forests, scrub lands, deserts, intertidal zones, and even mountains.
Niche:	Diurnal, generally carnivorous, there are some jumping spiders which include nectar and pollen in their diet
Diet:	Wild: wasps and other insects Zoo:



Special Adaptations: Jumping Spiders are named for their ability to leap 10 to 40 times their body length. They are among the few arachnids who have good vision and use it for hunting and navigating. All jumping spiders have four pairs of eyes with very large anterior median eyes (AME), which their vision is centered around. Their eyes are arranged in three rows, except for the Lyssomaninae, which have four rows (one for each pair). Jumping spiders don't move their eyeballs, they move the retina inside the eye. Their smaller size aids in their capacity to jump from place to place, secured by a silk tether. Both their book lungs and the tracheal system are well-developed, as they depend on both systems (bimodal breathing).

Other: Jumping spiders are active hunters, which means that they do not spin a web to catch their prey. Instead, these spiders stalk their prey among the low-lying vegetation. They have fast acting venom, which allows them to feed on wasps and other formidable insects. Courtship is a visual affair; the male performs movements in front of the female by waving their legs and palps. Jumping spiders in the genus *Phidippus* have iridescent green chelicerae.



WOLF SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Lycosidae	<i>Schizocosa</i>	<i>sp.</i>

Range:	Distributed worldwide
Habitat:	Wide range of habitats both coastal and inland. These include shrublands, woodland, wet coastal forest, alpine meadows, and suburban gardens
Niche:	Terrestrial, nocturnal, insectivorous
Diet:	Wild: small animals – arthropods, reptiles and mammals Zoo:



Special Adaptations: Mother encases eggs in a silk egg sac. She then attaches the sac to her spinnerets (complex organ in spiders that produce the silky strands) and carries them with her. Spiderlings climb up their mother's legs and crowd onto her abdomen where the mother carries them until they are old enough (several hours or days) to hunt for themselves. The hatchlings will scatter immediately if the mother spider is threatened or attacked. Spiderlings disperse aerially and consequently wolf spiders have wide distributions.

Other: They are agile hunters that rely on good eyesight; eight eyes arranged in 3 rows; the bottom row consists of four small eyes, the middle row has two very large eyes and the top row has two medium-sized eyes. Their method of hunting is to run down their prey. They usually make no attempt to conceal themselves. They do not spin a web but roam at night to hunt for food. They live mostly solitary lives and hunt alone. Wolf spiders are usually covered with long, spiky hairs. They also possess an acute sense of touch.

BROWN RECLUSE SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Sicariidae	<i>Loxosceles</i>	<i>reclusa</i>

Range:	Native to the United States from the southern Midwest south to the Gulf of Mexico
Habitat:	dark, undisturbed sites, either indoors or outdoors. They thrive in human-altered environments.
Niche:	Nocturnal, carnivorous, terrestrial
Diet:	Wild: largely a scavenger, preferring dead insects Zoo:



Special Adaptations: Both sexes are venomous. (rarely fatal) Only spider in US to possess necrotic venom; components of the venom cause cells near bite to die and may take a long time to heal. The brown recluse spider is resilient, and can tolerate up to 6 months of extreme drought and scarcity or absence of food, most notably observed on one occasion to survive in controlled captivity for over five seasons without food.

Other: Also commonly referred to as "fiddleback" spider or "violin" spider because of the violin-shaped marking on the top surface of the cephalothorax. Rather shy and nonaggressive behavior. Recluse spiders build irregular webs that frequently include a shelter consisting of disorderly threads. It is only built as a daytime retreat and as an egg holder. Adult brown recluse spiders often live about one to two years. Each female produces several egg sacs over a period of two to three months, from May to July, with approximately 50 eggs in each sac. The eggs hatch in about one month. The spiderlings take about one year to grow to adulthood.



BROWN HUNTSMAN SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Sparassidae	<i>Heteropoda</i>	<i>venatoria</i>

Range:	Asia, Australia and Americas
Habitat:	Tropical and subtropical in low vegetation
Niche:	Terrestrial, carnivorous, nocturnal
Diet:	Wild: Cockroaches and other insects Zoo:



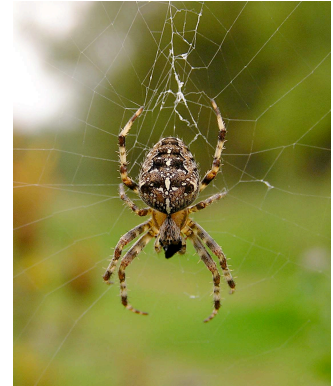
Special Adaptations: They are fairly large, some having a leg span of approximately five inches. Male and females do not spin webs but instead wait quietly and then rushing forward when their prey gets within close range. The Brown Huntsman should not be confused with tarantulas, but huntsman spiders legs, are twisted in such a way that the legs extend forward in a crab-like fashion, rather than being jointed vertically relative to the body as in tarantulas.

Other: Venom is not dangerous. Sometimes called "banana spider" as it occasionally arrives in bananas.

CROSS ORBWEAVER SPIDER

Class	Order	Family	Genus	Species
Arachnida	Araneae	Araneidae	<i>Araneus</i>	<i>diadematus</i>

Range:	Europe, Introduced to North America
Habitat:	Opportunistic, vegetation in farms, orchards and suburban yards
Niche:	carnivorous
Diet:	Wild: flying insects Zoo:



Special Adaptations: Specialized for spinning orb webs, The webs are built by the larger females who hang head down in the center of the web or remain hidden in nearby foliage, with one claw hooked to a signal line connected to the main orb waiting for a disturbance to signal the arrival of prey. Prey is then quickly bitten and wrapped in silk before being stored for later consumption.

Other: One of the most well known spiders in the whole world. Sexual dimorphism- the female is larger than the male. Eight eyes. ~ 30 species are found in the Bay area; they are important predators of mosquitos and other pest insects. October is spider season in the Bay area. This is when they mate, lay eggs and die. Baby spiderlings hatch in the spring to start a new cycle.



AMBLYPYGI

Class	Order	Family	Genus	Species
Arachnida	Amblypygi	Phrynichidae	<i>Phrynus</i>	<i>diadema</i>

Range:	Tanzania
Habitat:	Tropical and subtropical forests
Niche:	Nocturnal, carnivorous
Diet:	Wild: mostly arthropod prey (insects and some small vertebrates) - opportunistic feeder Zoo:



Special Adaptations: The long slender front legs are modified to act as feelers; raptorial pedipalps modified for grabbing and retaining prey. Most species have 8 eyes. First pair of legs act as sensory organ and are not used for walking.

Other: Ancient Order of arachnid chelicerate arthropod, also known as whip spiders and tailless whip scorpions. This should not be confused with whip scorpions and vinegaroons of Order Thelyphonida. Amblypygi means “blunt rump” – it lacks a tail seen in whip scorpions. Amblypygids possess no silk glands or venomous fangs. Amblypygids hold territories that they defend from other individuals. Amblypygi are arachnids but produce no venom.

GIANT WHIP SCORPION or THELYPHONIDA

Class	Order	Family	Genus	Species
Arachnida	Thelyphonida	Thelyphonidae	<i>Mastigoproctus</i>	<i>giganteus</i>

Range:	Tropical and subtropical and hot dry areas worldwide. They are missing in Europe, Australia, and, except for an introduced species, in Africa. Southeast Arizona.
Habitat:	Tropical and sub-tropical climates, dark damp and preferably humid, as such they spend most of their time in their underground burrows
Niche:	Nocturnal, carnivorous, terrestrial – burrows
Diet:	Wild: mostly insects and millipedes, sometimes worms and slugs Zoo:



Mastigoproctus giganteus

Special Adaptations: The Thelyphonida or vinegarroons use only six legs for walking, having modified their first two legs to serve as antennae-like sensory organs. They have poor vision and use these first pair of legs as highly modified feelers. The prey is crushed between special teeth on the inside of the trochanters (the second segment of the leg) of the front legs. They don't have waterproofing wax layer in their exoskeleton so they are susceptible to desiccation. They are seldom found in the open except after rain. They obtain moisture from prey and drink water when available. They have well-developed palps used to scoop up substrate in burrowing.

Other: The Whip Scorpion is actually an arachnid but not a scorpion and is dubbed the 'Whip Scorpion' as it resembles a scorpion but it lacks venom and a stinger instead it has a whip-like tail. Prey is located by "whip". They have one pair of eyes at the front of the cephalothorax and three on each side of the head, a pattern also found in scorpions. Vinegarroons have no venom glands, but they do have glands near the rear of their abdomen that can spray a combination of acetic acid and octanoic acid when they are bothered. The acetic acid gives this spray a vinegar-like smell, giving rise to the common name *vinegarroon*. The male whip scorpion will fertilize the newly laid eggs with his sperm sack and the female Whip Scorpion will dedicate all her time to watching over the eggs, not even featuring forth to feed. Once the young are born the female Whip Scorpion dies soon after.



EMPEROR HAIRY SCORPION

Class	Order	Family	Genus	Species
Arachnida	Scorpiones	Scorpionidae	<i>Pandinus</i>	<i>imperator</i>

Range:	African nations
Habitat:	Rainforest and open savannas
Niche:	Terrestrial (burrows), carnivorous,
Diet:	Wild: insects and small lizards Zoo:



Special Adaptations: All scorpions fluoresce under UV light. Sensory hairs cover the pincers and tail, enabling the emperor scorpion to detect prey through vibrations in the air and ground.

Other: Among the largest of scorpions: adults ~ 7". They can live 5-8 years. Their venom is mild. The emperor scorpion burrows beneath the soil and hides beneath rocks and debris, and also often burrows in termite mounds. The front part of the body, or prosoma, is made up of four sections, each with a pair of legs. Behind the fourth pair of legs are comb-like structures known as pectines – these are longer in males than females. When gravid (pregnant), the body of a female expands to expose the whitish membranes connecting the segments.

GIANT DESERT HAIRY SCORPION

Class	Order	Family	Genus	Species
Arachnida	Scorpiones	Caraboctonidae	<i>Hadrurus</i>	<i>arizonensis</i>

Range:	In North America, is distributed throughout the Sonoran and Mojave deserts. It is found in the western two thirds of Arizona, the Colorado and Mojave desert regions of southern California, southern Nevada, and extreme southwestern Utah. In Mexico, the species' range flanks the Sea of Cortez in Sonora and Baja California Norte.
Habitat:	Hot and dry conditions. They are usually found in and around washes or low-elevation valleys. Burrows in dry sandy areas
Niche:	Terrestrial - burrow, carnivorous, nocturnal
Diet:	Wild: other scorpions and a variety of other prey, including lizards and snakes Zoo:



Special Adaptations: Lobster-like pincers. It gets its common name from the brown hairs that cover its body. These hairs help it to detect vibration in the soil. Scorpions are able to conserve water in body through a waxy layer of exoskeleton which is impermeable to water loss, with this species being on the least permeable. Water is also conserved by excreting dry, crystalline waste products (guanine and uric acid). Scorpions have narrow spiracles to their book lungs, which are set into the body cavity, keeping water loss by evaporation to a minimum. Scorpions fluoresce under UV light because they contain a fluorescent protein in the hyaline layer of their exoskeleton.

Other: This is the largest scorpion in North America. Like all scorpions, the giant desert hairy scorpion gives birth to live young, which remain on the mother's back for a week or more before leaving. Venom considered weak – like a bee sting. All scorpions are predators, feeding on other arthropods but the scorpion can survive long periods without food. A scorpion will molt an average of six times before reaching adulthood. After it reaches adulthood it will no longer molt. Depending on the species, a scorpion reaches adulthood between six months to seven years of age. Fertilized eggs develop in the mother and the young are born live. They are then carried on her back for several weeks until they begin to feed.



ASIAN FOREST SCORPION

Class	Order	Family	Genus	Species
Arachnida	Scorpiones	Scorpionidae	<i>Heterometrus</i>	<i>longimanus</i>

Range:	Southeast Asia - India, Malaysia
Habitat:	Asian humid tropical rainforests - under rocks and logs
Niche:	Terrestrial with some burrowing, nocturnal, carnivorous
Diet:	Wild: insects and small rodents Zoo:



Special Adaptations: They do not see well and depend on touch, using the stiff hairs on their pincers and pectines, a pair of comb-like structures underneath the last two legs. Sexual dimorphism – male larger than female

Other: Large sized scorpions. Aggressive nature. Although they have a large stinger, their venom is weak and not dangerous to humans.

They are viviparous and give birth to live young. Young ride on the mother's back until they molt for the first time. They then become independent and live a solitary life. Life span is 7-8 years.