



Above: Banded Argiope
Below: Orb Weaving Spider

Wherever you are reading this, there is probably a spider within three feet of you. That may be hard to imagine until you realize how abundant spiders are. They can be found almost anywhere. From high atop Mt. Everest to

below sea level deserts, even in tidal pools that are submerged twice a day.

Some spiders dig deep burrows while others string their webs high in the trees. Some have even been

two main body segments, a cephalothorax and an abdomen. Insects have three main body segments, a head, thorax, and an abdomen. Spiders have four pairs of legs and a pair of pedipalps. Insects have three pairs of legs. Most insects have compound eyes, wings, and antennae; spiders do not have any of these. Spiders have silk producing glands, or spinnerets, at the end of the abdomen. They also have two piercing fangs at the front of the cephalothorax. Mature male spiders have complex structures on the pedipalps that are used during mating.

Mating for some male spiders

barely at all. Some spiders die after laying the eggs. Others take good care of the eggs and protect them from enemies. Wolf spiders carry the egg case around with them attached to the spinnerets. Once the spiderlings hatch, they usually stay in a tight group for a while, then they will disperse.

Spiderlings can fly on a strand of their own silk picked up by air currents. This is called ballooning. They climb up to the top of the nearest object, a stem of grass for instance, and raise their abdomen high in the air. Then they release a strand of silk. The tiniest gust of air can pick up the spider. Sometimes

Spiders in Your Backyard

Story and photographs by Bryan Reynolds



found far out at sea, flying on their own silk strands. Scientists have estimated that in just one acre of grassland there are 2.5 million individual spiders! The tropics have many more. This is hard to believe until you realize the majority of spiders can sit quite happily on the tip of a pencil.

To enjoy and observe the diversity and natural history of spiders, you don't have to go to the ends of the earth. Your backyard, an old field, or the local park are great places to go spider watching. Nevertheless, before you go to check out the life and times of spiders, it is a good idea to know a little about them first.

Spiders are not insects. Both spiders and insects have an exoskeleton, or outer shell, with jointed appendages. Spiders have

can be a dangerous thing. When a male spider reaches maturity, he is ready to find a female to mate with. A spider is a mature male if he has the ends of his pedipalps swollen like boxing gloves. Once the male finds a female of the right species, he has to announce his presence. The web building spiders "pluck" a message, while the hunting spiders do a little dance for the female. The male of most spiders is much smaller than the female. He has to give the right message or he will become a meal instead of a mate. If the female likes the message, she will allow him to mate.

After the spiders have mated, the female will lay her egg case. Depending on the species, the egg case may hold hundreds of eggs, or just a few. The egg case may be wrapped with very tough silk or

they only go a short distance. Or they may be taken high up into the sky and fly for miles. Once they land in a suitable spot, their first order of business is to find something to eat.

Spiders have developed many tactics to capture prey. Wolf spiders and jumping spiders actively hunt and pounce on their prey, piercing the victim with fangs and injecting venom. Crab spiders wait in ambush for unsuspecting insects to come by. Web building spiders include orb weavers, whose webs are built for catching flying and hopping insects. Cob web spiders catch a lot of crawling insects such as beetles, ants and cockroaches. Funnel web spiders catch insects that land on the silk platform of the web. The larger spiders, such as tarantulas can even occasionally



capture small rodents, lizards, snakes, and birds.

Once a spider catches its prey it regurgitates digestive juices, or enzymes, into it. These enzymes start to break down the tissues of the prey into a nutrient liquid. The spider sucks up the nutrient broth into its mouth. Spiders are suctorial feeders and do not eat solid food. Small spiders poke holes into their prey and suck out the juices through the holes. Some of the larger spiders crush up their prey to eat. When they are done, all that is left is a little pellet of indigestible material.

As spiders eat, they start to grow. In order for a spider to grow, they have to periodically molt or shed their exoskeleton. A spider will stop feeding for several days when the molt is near. The new exoskeleton will grow under the old one. The spider finds a safe place. The old skin splits, and the spider pulls out of the old skin like fingers out of a glove. Molting is a very vulnerable time for a spider. The new skin is soft for a while and the spider cannot defend itself from enemies until its new skin hardens. When molting, spiders can regenerate lost limbs. Male spiders will become mature on the final molt and start the cycle all over again. During molting, hunting, mating, and most other activities, spiders rely on their silk. In fact, without silk, spiders would die.

All spiders produce silk. They wrap their eggs in it, build webs or line burrows with it, and some capture prey with it. Spiders are always playing a line of silk out when they move about. This is called a drag

line. It is like a safety line in case the spider loses its footing and falls. Silk is stronger than steel of the same diameter and can stretch to twice its original length before breaking. Spiders can even eat their silk and recycle it! All of this drama is continually playing out all around you. Most of it is very easy to observe.

Early mornings will yield dew covered orb webs shimmering in the sunlight. Look under old logs or stones to find a multitude of spiders. Be sure to always roll the rocks and stones back after observing. Gardens will attract jumping



Black Widow molting

spiders and large garden spiders. Go out at night with a flashlight and you will see nocturnal orb weavers. Wolf spider's eyes will gleam with the reflection of the flashlight. Cobweb spiders, such as the black widow, will be out repairing their webs along old walls or piles of firewood. Always just observe and never inter-

fere. Your local library, nature center, or museum can help with the questions you might have. And always follow the words of the old adage, "If you wish to live and thrive, let a spider run alive."

About the Author

Through self-study, patience and practice, Bryan Reynolds has been able to produce the images you see here. Bryan grew up with an appreciation for nature. As a child, he worked on the family farm in northwest Wisconsin where, from an early age, his parents taught him to treasure the diversity of the natural world around him. He developed a very strong interest in spiders and insects. Fascinated with them, he

AMAZING SPIDER FACTS

1. The largest spider is almost a foot across and the smallest is the size of a printed period (.).
2. Spider silk has a tensile strength the same as nylon.
3. Scientists have identified and described over 36,000 species of spiders. They estimate that is about one fourth of the total number.
4. Black widow venom is 15 times more potent than rattlesnake venom.
5. Jumping spiders can see almost 360 degrees around themselves at once.
6. The largest orb weaving spiders build a web three feet across. These webs are so strong, they can catch small birds.
7. Most spiders live for one year. Some North American tarantulas can live for almost 30 years.

started a collection. Since Bryan never liked the idea of having to kill an animal for his collection, his parents bought him a camera, allowing him to "collect" without harming his subjects. Armed with his camera and a little knowledge, he began to photograph the world of the very small. Camera in hand, Bryan could frequently be found slogging through knee-deep mud, or chasing swift butterflies in 100 degree weather, or out at night with a flashlight looking for nocturnal insects and spiders. Bryan works as a medical laboratory technologist and part time as a nature photographer/writer. He has lived in Albuquerque, NM for 11 years with his wife and two children. 🐾

From left: Black Widow, Orb Weaving Spider, Male Black Widow, Wolf Spider, Orb Weaving Spider, Jumping Spider

