

# Arachnids – Spiders

Of the over 75,000 arachnid species in 450 families in the world, there are more than 42,000 spider species in 110 families. In North America almost half of the spider species are about 1/8" long. They perform essential ecosystem functions and they are the most numerous small predators.

Spiders don't live long lives; the majority of them live less than 1 year and males typically live only a few weeks. There are a few that overwinter as adults, but most overwinter as eggs or juveniles in egg cases. Females are usually larger than the males.

Spiders grow by molting and can molt 5-10 before adulthood; the number of molts depend on the size of the spider, larger spiders have more molts. The young "leave home" by way of ballooning. This is where they start to spin silk and allow the wind to carry them and that silk strand to a new location. This method of dispersal is one reason why spiders are usually the first on the scene after some type of catastrophe.

It is near impossible to ID a spider down to the species level via a photo. The only accurate method of ID to this level would mean you were able to flip them over and look at their genitals under a microscope and this is only applicable when the spider is fully matured. There are some other types of clues that help though. The shape and color of the egg case or sac is distinctive to a genus. The webs are as well. The habitat they are found in, the time of day, the weather, and the season will also assist with IDs. Males and females are distinguished by their palps; males are larger and more inflated looking. The color and patterns on a spider can be deceptive for making IDs and much like other insects, they change as they mature and mature ones can have a great deal of variation to their colors and patterns.

Spiders do not have the ability to chew food. They eat liquid only. To do this, they inject an enzyme into their prey that liquefies their internal organs. The spider then sucks this nutritional fluid out. As predators, mating can be tricky. The males have to approach cautiously. Some spiders have developed communications that assist. Jumping spiders will do a zig-zag dance and wave their palps; wolf spiders have a vibration routine they employ.

Spiders are not dependent upon their eyesight. I find this interesting because they have so many eyes! Most of their sensory connection with the world are thru the leg hairs (known as trichobothria), which have a nerve bundle at the end of each. These are so sensitive that they can detect air movement from a nearby insect. For tasting, they use the end of the legs and palps, much like a fly would; we know nothing about how or if they can smell. For our all knowledge of the world, I continue to be amazed at how much info we lack about insects.

### **Agelenidae (Funnel Weavers)**

*Agelenopsis* sp

### **Araneidae (Orb Weavers)**

*Araneus* sp

*Argiope aurantia* – Black & Yellow Garden Spider

### **Corinnidae (Antmimics and Ground Sac Spiders)**

*Castianeira amoena* -Tiger Spider

### **Lycosidae (Wolf Spiders)**

*Hogna carolinensis* – Carolina Wolf Spider

*Hogna* sp

*Schizocosa* sp

### **Pholcidae (Cellar Spiders)**

*Pholcus manueli* – Cellar Spider

### **Salticidae (Jumping Spiders)**

*Maevia inclemens* – Dimorphic Jumper

*Pelegrina* sp

*Pelegrina galathea* – Peppered Jumper

*Phidippus clarus*

### **Theridiidae (Cobweb Spiders)**

*Parasteatoda tepidariorum* – American House Spider

*Steatoda* sp

### **Thomisidae (Crab Spiders)**

*Mecaphesa* sp -Crab spider

*Xysticus* sp – Ground Crab Spider