

Tarantulas

Tarantula means the generally large, hairy spiders that belong to the Theraphosidae. Spiders belong to the order Araneae, and the majority, are considered true spiders, whose fangs point to the midline and open sideways. Fangs of the order Mygalomorphae open parallel to the long axis of the body. Mygalomorphs include the trapdoor and purseweb spiders, as well as those that are commonly called tarantulas and belong to the Theraphosidae.

Structure

Tarantulas are hairy, large, and have the basic morphology of the true spiders, including two body regions, the cephalothorax and the abdomen. The cephalothorax, include four pairs of legs, a pair of pedipalps and a pair of fang-tipped chelicerae. The abdomen differs from that of the true spiders by having only two pairs of spinnerets rather than three pairs on their posterior, and by having ventrally two pairs of book lungs rather than one.

Mature males can be identified by the special copulatory organs (palps) on the pedipalps and by the hooks on the first pair of legs. Adult females are not as easily identifiable because they often lack obvious external clues; only size and (in some) a swelling in the genital area at the ventral slit, called the epigastric furrow.

Behavior

Tarantulas may reach sexual maturity in as few as two years, or in as many as nine years (burrowing species). Males do not molt after reaching maturity, and soon after, adults usually begin wandering in search of females. Before copulation, a male takes up into his palps sperm that he deposited on a specially spun sperm web. During copulation, he inserts the sperm into the female's genitalia. Males do not live more than a few months after mating. Females live longer, often reaching beyond 25 years. Tarantulas will normally eat any prey in the right size range, including most insects, other invertebrates, and even some small vertebrates. Tarantulas may specialize on certain prey, such as millipedes or desert beetles. Based on the little research that has been done, you should feed tarantulas a variety of insects to ensure that they obtain all the needed nutrients. Feeding twice a week should be enough, but any live insects not eaten within a day should be removed.

Handling

When handling tarantulas, always remember *their* safety, especially the dangers if they are dropped. If a tarantula hits its soft abdomen on a hard surface, it could break open, killing the spider. Also, you could squeeze too hard and injure the spider.

The brown tarantula of the southwestern United States may get upset and threaten, occasionally even bite. The pink-toed tarantula is an arboreal spider from South America, which is able to move quickly on any surface. While very docile and non-threatening, its quickness may startle some, allowing it to get away. The South American rosy-haired tarantula is very docile and a good spider to introduce to students.

For rosy-haired and other easily handled tarantulas, place a flat hand in front of the spider and gently touch the back legs until the tarantula eases onto your hand. The safest way to pick up a tarantula, especially one you are not familiar with, is to grab it with the thumb and finger between the bases of the second and third pair of legs. After gaining a little practice and familiarity, this is also the safest and easiest means of showing a tarantula to others. If a spider escapes or won't sit still, cup both hands over it; the tarantula will normally quiet down quickly in this dark, tight position.

Normally, these three species will bite only if they are being hurt. If they feel threatened, however, they may use their back legs to flick special hairs off their abdomen.

Tarantulas (cont)

Urticating Hairs

The special protective hairs that are found on the dorsal and posterior surface of the abdomen of most American tarantulas are called “urticating” hairs because the hairs are barbed, and when in contact with soft tissues they dig into the tissue and cause an urtication or irritation. Five different types of urticating hairs are known. One type is laid in the webbing where the tarantula lives, preventing parasitic fly larvae from crawling into the web to attack the egg sac. Other types penetrate skin, mucus membranes and eyes.

An animal that attempts to eat the tarantula may get a face full of the hairs, causing the eyes to water, the nose to itch, the breathing passage to swell shut and the lips and tongue to become irritated.

Tarantulas that are very irritable or that have been mishandled frequently throw hairs. This can produce bald patches, sometimes covering almost their whole abdomen. When the spiders molt, the new exoskeleton has a complete set of new hairs.

Students should not breath in while holding their faces at the top of the aquarium. If, while being held, a tarantula throws hairs on a student’s hand, simply blow them off. Rarely can they penetrate the thickened skin of the hand, but they can embed in the soft skin of the inner arm. This spot will become red and itchy but will disappear after one or two days. If the spider throws hairs, collect them with an alcohol-dampened paintbrush and then mount them on a slide to observe under a microscope.

Molting

Molting is a fundamental process of all arthropods. In order to grow larger, they shed their old exoskeleton, and the new one hardens to provide protection and a place to anchor muscles internally. The new exoskeleton is larger, allowing the spider to grow internally, and it also provides the spider a complete new set of undamaged sensory and protective hairs. Molting also gets rid of any parasite or fungus that might have started to grow on the outside of the spider.

Tarantulas will normally stop feeding several days before they molt. The molting process takes several hours. It begins with the spider lying on its back, and since spiders do not die on their backs, this position only indicates molting. Do not touch the tarantula until the day after the molt to make sure the exoskeleton has hardened enough to protect it.

Housing

Aquariums provide suitable housing for tarantulas provided they have covers that prevent escape, enough space to allow air exchange yet avoid low humidity, and a substrate of gravel or vermiculite. Burrowing species (brown and rosy-hair) need a hiding place, while arboreal species (pink-toed) need to be able to climb and create a tubular silk retreat.

Water should always be available in small dishes or petri plate that are easy to clean and refill. Spraying or misting water on the arboreal materials is also beneficial as long as the materials are allowed to dry between sprays.

Temperature is important because most species are tropical or subtropical. If the room remains at a constant 70°-75° F, no other heating is necessary. Do not allow the aquarium to get much warmer than 80° F or cooler than 65° F. If the classroom temperature drops low at night or on weekends, a heater is necessary. Substrate heaters are good, but avoid heat lamps or light bulbs for tarantulas.

Tarantulas (cont)

General Care in Captivity

Place cage on a sturdy shelf or table out of direct line of traffic. Do not set the cage near a south facing window.

Fill water dish upon arrival and add water as needed

Crickets will be sent with your tarantula. Open the container and put all the crickets in with the tarantula. You may try other types of insects (they must be live insects). Feel free to let the students try what they want.

Tarantulas have a tendency to hibernate during the winter if allowed to cool. This is okay but if you want them to be active, provide a lamp during the day.

If you must handle a tarantula, allow it to climb on a hand or pick it up firmly midway down the thorax.