

## Colorado Arachnids of Interest

# Colorado Tarantulas

**Scientific Name:** *Aphonopelma* spp.  
(3-5 species)

**Class:** Arachnida (Arachnids)

**Order:** Araneae (Spiders)

**Family:** Theraphosidae (Tarantulas)



Figure 1. Male Oklahoma brown tarantula (*Aphonopelma hentzi*) crossing road.

**Identification and Descriptive Features:** Tarantulas (Figures 1, 2, 3 and 6) are large, hairy spiders and all species found in Colorado are generally dark brown to black. Longer hairs are usually present on the abdomen and these may be a lighter brown color. Some banding of colors may be present on the legs. The carapace (back of the section with legs and head/cephalothorax) of eastern Colorado species ranges from light gray-brown to dark reddish brown with some coppery tones. Almost all tarantulas that are observed are mature males migrating in late summer and early fall.



Figure 2. Tarantula female emerging from burrow. Otero County.

Females (Figure 2), which are much less commonly collected and observed than the adult males, will be found within the very near vicinity of their burrows. They usually have similar markings to the males but do not develop the very long legs of mature males. Adult females are also considerably larger than the males. For example, the carapace length of *A. hentzi* may be about 20 mm in the female and only about 15 mm in the male.

Two “mini-tarantulas” are known from western Colorado. Most common is *Aphonopelma vogelae* Smith (Figure 3). County records for this species include Montezuma, Montrose, and San Miguel. Males have a carapace length of about 10 mm. The western Colorado species tend to be more uniformly dark brown to black than those in southeastern Colorado. Long orange hairs protrude from the legs and abdomen of *A. vogelae*.



Figure 3. *Aphonopelma vogelae* male, a mini-tarantula found in southwestern Colorado .

Some other large spiders occur in Colorado and these are sometimes mistaken for tarantulas. Most common are large wolf spiders (Lycosidae family) in the genera *Hogna* and *Geolycosa*. Some of these will also establish burrows but they are much more active spiders and both sexes may wander in search of prey. A bit of close inspection can readily distinguish these spiders from tarantulas, including the large eyes associated with wolf spiders and differences in the manner the jaws and fangs move. (Tarantulas move their fangs in a vertical plane; most other spiders, including wolf spiders, have jaws and fangs that move sideways.) Large wolf spiders also range much more widely in Colorado and can be found in most all counties.

**Distribution in Colorado:** The most commonly encountered tarantulas in the state occur in the southeastern Colorado, throughout the counties bordering the Arkansas Valley (Fremont-Prowers) and south. Within this region they can be locally common in areas of prairie; cultivation destroys tarantula habitat and they are not found in croplands. Three species of tarantulas are reported from southeastern Colorado - *Aphonopelma coloradanum* (Chamberlin), *Aphonopelma echinum* (Chamberlin) (aka Colorado chocolate brown), and *Aphonopelma hentzi* (Girard) (aka Oklahoma brown). The taxonomy of these species is in review and future revisions may consolidate them into two or perhaps only a single species.

*Aphonopelma vogelae* is the species found in southwestern Colorado, with county records that include Montezuma, Montrose, and San Miguel. *Aphonopelma marxi* (Simon) is known from Mesa and Dolores Counties. Both of these are “mini-tarantulas” that are smaller than those found in eastern Colorado.

**Life History and Habits:** The life history of tarantulas in Colorado has not been studied in any depth. The following is based on information derived from studies of *Aphonopelma* species found in adjacent states.

Tarantulas live within a burrow that ultimately can extend more than a foot deep. The main burrow is vertical and at the bottom terminates in a side chamber. The tunnel is reinforced with silk and a small turret of silk and dried leaves produces a shallow collar around the entrance (Figure 4). During the day the burrow entrance is often marked with a veil of silk (Figure 5) to deter predators and the tarantula remains within, emerging at dusk. Late in the season a solid plug of the burrow entrance is made and the spider remains sealed within during the cold months, removing the plug the following spring. Except for the notable migrations of the mature males, tarantulas are very non-migratory and stay in the vicinity of the burrow their entire life.

The Colorado tarantulas hunt at night, sitting at the edge of the burrow in wait of passing prey. When an insect moves close enough, usually within a 2-3 inches, the tarantula will rush forward grab the prey with its pedipalps and impale it with the fangs.



Figure 4. Entrance to a tarantula burrow.



Figure 5. Tarantula hole with veil of silk webbing covering opening.



Scarab beetles, large ground beetles and other insects that pass during dusk and night are taken as food. Typically it may take a day or more for the tarantula to finish consuming a captured insect.

Eggs are laid sometime in June. The female first puts down a hammock of silk then lays the eggs upon it. They are then covered with another layer of silk. The edges of the silk are pulled together and the entire package is rolled to produce a roughly spherical egg sack. The mother carries the eggs into the burrow where they remain most of the time. Periodically they are carried to the surface for warming and then returned.

Eggs hatch about 50-60 days after they have been laid. The young spiderlings do not balloon in the air as do some spiders and instead settle in the near vicinity of the mother's burrow. Originally they first establish at the base of a grass clump, gradually expanding their burrow over the next several years. The females molt shortly after the young have left the burrow, usually around the end of July or early August.

It is estimated that males mature in about 7-10 years after egg hatch, although some studies suggest it may be shorter. Females require an additional 1-2 years before they are mature. During early development they may molt more than once per year, but as they approach maturity molting becomes an annual event. Both sexes have generally similar appearance during their early development.

At the last molt, when males become fully mature, there are substantial changes in both their appearance and behavior. Most notably the adult males develop longer legs and they abandon the burrow in search of females for mating. For species that are present in southeastern Colorado these migrations of the adult males take place from late August through September and it is at this time of the season when Colorado tarantulas are most often observed. (*Aphonopelma vogelae*, the most commonly encountered species in southwestern Colorado, tends to have peak migration of males in October.) The males may be active until cold weather kills them, but all normally perish within a couple of months. Males collected and maintained in captivity have been known to survive until June, but normally few survive past November, going into a gradual decline through autumn.



Figure 6. A male tarantula (possibly *Aphonopelma echinum*) wandering across highway at dusk.

Females never leave the burrow except to hunt in the very near vicinity. Furthermore, they may live for over a decade after reaching maturity, annually producing a sack of eggs if successfully mated. In captivity, female tarantulas must mate after each molt to produce fertile eggs.

Despite their large size tarantulas pose little hazard to humans and can be gentle animals that make good pets. If handled roughly they may bite, producing a sharp pinch that may break the skin. However, they do not possess any venom that causes serious complications in humans. Like other North American tarantulas their primary defense involves use of the body hairs, which are barbed and can sting. When disturbed by a potential predator the tarantula will try to

run away. If cornered, they may bite or sting. However, they do not possess any venom that causes serious complications in humans. Like other North American tarantulas their primary defense involves use of the body hairs, which are barbed and can sting. When disturbed by a potential predator the tarantula will try to

rub some of the hairs from the abdomen onto the threatening animal, and these hairs can cause intense itching and injure eyes.

Tarantulas have several natural enemies. Various vertebrate predators, such as lizards, coyotes, and birds likely take many. However, the most spectacular natural enemies are the various “tarantula hawk” wasps. These are large spider wasps (Pompilidae family) in the genera *Pepsis* and *Hemipepsis*, six species of which are known from Colorado. Female tarantula hawks hunt and paralyze tarantulas with a sting. The helpless spider is then cached within its burrow or tucked into a nearby crevice and an egg is laid on it. The developing tarantula hawk larva consumes the tarantula.



Figure 7. The large spider hunting wasps known as “tarantula hawks” (*Pepsis* spp., *Hemipepsis* spp.) are one of the natural enemies of Colorado’s tarantulas.