

## Colorado Insect of Interest

# Tarantula Hawks

**Scientific Name:** *Pepsis* spp., *Hemipepsis* spp.

**Order:** Hymenoptera (Bees, Wasps, Ants, Sawflies, etc.)

**Family:** Pompilidae (Spider Wasps)



**Figure 1.** Tarantula hawk wasp.

**Identification and Descriptive Features:** The tarantula hawks are large to very large wasps with blue black bodies and shiny wings.

**Distribution in Colorado:** Six species of tarantula hawks are known to occur in Colorado:

*Pepsis thisbe* Lucas - The most commonly collected species in southeastern Colorado. Males suspected of being wind-blown strays have even been found in Boulder, Weld, and Larimer counties.

*Pepsis mildei* Stal - Commonly collected in southeastern Colorado (Arkansas Valley and south)

*Pepsis formosa formosa* (Say) - Uncommon in southeastern Colorado

*Pepsis angustimarginata* Viereck - Occasionally collected in southeastern Colorado; also known from Utah so may be present in western counties.



**Figure 2.** Tarantulas (*Aphonopelma* spp.) are the hosts for tarantula hawk larvae.

*Pepsis pallidolimbata pallidolimbata* Lucas - Reported from Montezuma, Mesa counties in western Colorado

*Hemipepsis ustulata ustulata* Dahlbom - Common in SE Colorado

**Life History and Habits:** The tarantula wasps are spider wasps that specialize in hunting tarantula spiders (*Aphonopelma* spp. in Colorado). Females tarantula hawks search for their prey, usually at the tarantula burrows. When located the tarantula hawk attempts to

sting the tarantula at nerve centers on the underside, paralyzing the spider. The spider is then pulled into the burrow or, if captured away from the burrow, into a crevice under a rock or similar shelter. An egg of the tarantula hawk is then laid on the immobilized tarantula. Some debris is then piled over the opening of the spider cache and then the tarantula hawk leaves.

The egg hatches in about 3-4 days and the newly emerged wasp larva begins to feed on the still

live but helpless spider. During early development, feeding is confined to non-vital organs and only in the last instar does the tarantula hawk consume the heart and nervous system tissues. The larvae are usually full-grown about three weeks after egg hatch. They then pupate for a period of about 15-20 days.



**Figure 3.** Adult tarantula hawks of both sexes feed on nectar.

Adults of both males and females feed on nectar and can be found visiting flowers during the day. Females intersperse mating and feeding with searches for new hosts. A study of *Pepsis thisbe* in Texas indicated that on average 13.4 eggs were laid per female wasp, an indication of the number of tarantulas potentially killed per generation of the tarantula hawk.

Tarantula hawks are not aggressive but will sting if handled. The sting of the female wasp is very painful. Males, which are recognized by curled antennae, can not sting.



**Figure 4.** Male tarantula hawk.