Daddylonglegs
(Harvestmen, Opilionids)

Figure 1. *Phalangium opilio*, the most common daddylonglegs in much of Colorado.

Class: Arachnida (Arachnids)
Order: Opiliones (Opilionids)
Families in Colorado: Phalangiidae, Sclerosomatidae, Ischyropsalidae

Identification and Descriptive Features: Daddylonglegs have a globular body form that lacks distinct regions of the cephalothorax and abdomen. A pair of large eyes directed to the sides arises above the head on a short stalk, a bit like a periscope. Of course, the most obvious feature are the extremely long and narrow legs. Only the hind 3 pairs are used for walking, as the front pair has sensory functions used to explore their environment and is usually held in front of the body. The extraordinary legs are the basis for the popular common name "daddylonglegs". (This can be spelled in a variety of acceptable manners: daddy long legs, daddy-long-legs, daddy-longlegs, etc.)

Figure 2. Side view of *Phalangium opilio*.

Distribution in Colorado: The introduced species *Phalangium opilio* appears to now be widely distributed in the state and is common in yards and gardens. Some *Leiobonum* spp. also are widely distributed. The native species are primarily associated with wooded areas.

Figure 3. A *Leiobonum* species of daddylonglegs.

Life History and Habits: The common daddylonglegs that occur in Colorado are primarily predators of small soft-bodied insects. They will also scavenge dead or dying insects and may even feed on carrion of larger animals. Their chelicerae ("jaws") help tear apart their food which is mixed with digestive fluids. The opening of the mouth is wider than found with most other arachnids and this allows them to consume small pieces of solid food. Daddylonglegs also must have

access to free water that they can drink. Daddylonglegs exhibit no special mating behaviors, but males do possess a feature not found among most other arachnids, an aedeagus (penis). This allows direct insemination, without an externally produced spermatophore. The females possess a long, eversible ovipositor that she uses to lay eggs, inserting them into soil, under tree bark or in plant stems. In North America and Europe most species apparently have a one year life cycle with adult activity occurring in late summer and early fall. This is generally coincident with harvest time and thus these are sometimes known as "harvestmen".

Figure 4. Close up of the eversible ovipositor used to insert eggs into cracks and crevices.

Immature daddylonglegs are present in spring and summer and generally resemble adults but are smaller in size. Most species go through six nymphal stages before reaching the adult form, each stage punctuated by a molt. When preparing to molt they hang upside down first pulling out the body then grabbing each leg with their chelicerae, pulling it out the new leg to free it. Care must further be given to prevent the newly freed legs from sticking to each other until they sclerotize and harden, which may take hours.

Figures 5,6. Immature (above) and adult of the commn daddylonglegs *Phalangim opilio.*

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Physical differences between the sexes first appear in the in the penultimate molt, just prior to the adult stage. Adult males have a smaller body than the females and proportionately longer legs.

A feature observed by most anyone who has attempted to capture a daddylonglegs is that the legs readily detach when restrained. Furthermore, the detached legs will continue to twitch for many minutes. This ability (appendotomy or autospasy) occurs in some other arachnids and apparently is used to distract and confuse predators, allowing escape. Mobility does not seem to be seriously affected by the loss of a leg, or even a couple of legs; however, daddylonglegs will not regenerate the lost appendage.

Although they lack venom or sharp fangs, daddylonglegs employ a variety of means of self defense. Some go rigid and feign death while others will bounce vigorously, blurring their body form. Most important among defensive mechanism, however, are the use of chemicals. Special repugnatorial glands occur along the sides of the body at the base of the front two pair of legs, and these can produce a repellent mixture of phenols, quinones, ketones, and/or alcohols. Often mixed with fluid released from the mouth, these repugnatorial chemicals flow along grooves on

the body quickly making the animal distasteful to a potential predators. Some species may use their legs to dab or even flick these chemicals onto a potential predator.

Daddylonglegs are also recipients of one of the most widespread urban legends involving any arthropod; they are purportedly the world's most poisonous spider, but can't bite. This is false at many levels, notably that they are neither spiders (different order, Araneae) nor do they even possess poison glands. Despite their complete harmlessness to humans, this story has long history and can be heard repeated in most any area of the world where these arachnids occur.

Figure 7. A cellar spider, sometimes called a "daddylonglegs spider". This is a true spider, only distantly related to the daddylonglegs. (Order Araneae; Family Pholcidae)

Arachnids of Similar Appearance: The cellar spiders (Family Pholcidae) are spiders that share the feature of extraordinarily long legs with with daddylonglegs. However, these are true spiders (Order Araneae) and, among other things, produce a silken web within which they are almost always found. Cellar spiders are most often found in corners of outbuildings and basements.

Table 1. A partial list of daddylongleg species that are known to occur in Colorado, based on identifications of collections deposited at the Denver Museum of Science and Nature.

Phalangiidae
Phalangium opilio
Opilio parietinus
Sclerosomatidae
Leiobunum townsendi
Togwateeus biceps
Trachyrhinus marmoratus
Ischyropsalidae
Taracus packardi