

## Colorado Millipede of Interest

### Duff Millipedes

**Scientific Name:** *Polyxenus* spp.

**Class:** Diplopoda (Millipedes)

**Order:** Polyxenida

**Family:** Polyxenidae

#### Identification and Descriptive Features

Duff millipedes pale brown and minute only reaching about 1 mm. They have a generally elongated body form but are not at all worm-like as are other millipedes found in

Colorado. Bands of hairs encircle the body and there is a distinct tuft of hairs protruding from the tip of the abdomen.



Figure 1. Duff millipede



Due to their very hairy appearance duff millipedes are sometimes mistaken for larvae of dermestid beetles (carpet beetles) (Figure 2). Duff millipedes are much smaller than carpet beetles and their sudden appearance on walls or around sinks is not a behavior typical of carpet beetle larvae which tend to stay hidden. Upon very close inspection there are numerous other differences between duff millipedes including segmentation, number of legs, the abdominal hair tufts and antennal forms.



Figure 2 (Top) Duff millipedes. (Lower) Dermestid (carpet) beetle larvae.

**Distribution in Colorado:** Primarily among areas of pine forests, duff millipedes have also been found within some of the towns along the Front Range.

**Life History and Habits:** Species present in Colorado have not been studied but the biology is likely to be similar in broad detail to other members of this unusual millipede family. They feed on algae, fungi and decaying organic matter. Tree bark is the most common location for most duff millipedes (Figure 3) but they also may occur among fallen leaves and needles and even have been associated with debris within ant nests.

Egg fertilization is indirect with the male spinning a small silken mat upon which sperm is deposited. Silk strands guide females which then gather the sperm into their genital opening. The females then lay eggs in the form of a sticky mass that are covered with protective hairs of the body.

Duff millipedes go through seven immature stages, gradually increasing in size and segmentation with each molt, before reaching the adult form. Development of a common species that occurs in the cool forest conditions of Scandinavia (*Polyxenus*

*lagrus*) take about 10 months to reach the adult stage and adults live for about 3 months. Breeding may occur in spring and again in autumn producing two peaks of adult activity during the season. It is not known if this similar pattern is present among duff millipedes in Colorado.

Unlike most millipedes the body of duff millipedes is not hardened (calcified) and they lack chemical defenses. Instead they protect themselves by means of the hairs that protrude from the tip of the abdomen. These are hooked and can readily detach when the duff millipede is attacked by an ant, pseudoscorpion or other predator. Attempts to remove the hairs only further entangle the predator and ants may die from an encounter with the hairs of the duff millipede. The hairs are replaced at the next molt and their loss may accelerate the onset of molting.

**Household Migrations of Duff Millipedes:** Duff millipedes are only rarely observed in natural settings because of their minute size and coloration that blends well with their background. However, periodically duff millipedes will migrate into buildings where they may attract considerable attention. Large numbers of them may show up, sometimes abruptly. Largest invasions of duff millipedes tend to occur most often during hot, dry periods of summer. However, they may be present in homes from the middle of spring into autumn.

Duff millipedes may appear in various areas of the home but most often are concentrated around sources of moisture, such as kitchen sinks and bathrooms. Within the home they are often very slow moving, or do not move at all for long periods. Duff millipedes are not known to cause any harm and their feeding habits would prevent them from damaging any household materials. Perhaps the greatest damage is indirect in that they are commonly misidentified as dermestid (carpet) beetle larvae and control treatments are inappropriately applied.

Effective controls have not been developed that can prevent occasional duff millipede invasions of homes near sites where the millipedes breed and are common. Caulking and sealing of all openings should be useful to exclude them. Since duff millipedes appear to be attracted to moisture and the higher relative humidity of homes, reducing moisture sources adjacent to building foundations (e.g., irrigated landscaping, dripping faucets) is suggested. Clearing areas around the foundation of sheltering debris may also deter movement into buildings. No insecticides appear to be effective for control of duff millipedes.



**Figure 3.** Duff millipedes and shed skins found under flap of pine bark.