

## Colorado Insect of Interest

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### Cluster Flies

**Scientific Name:** *Pollenia* spp.

**Order:** Diptera (True Flies)

**Family:** Calliphoridae (Blow Flies)

**Identification and Descriptive Features:**

Cluster flies are slightly larger than house flies and a dull grayish-brown. Irregular light patches may be present on the abdomen. The feature that is most useful for distinguishing cluster flies from other blow flies are crinkly golden hairs on the thorax. (Note: These hairs readily rub off and may be largely absent in poorly handled samples.)



Figure 1. Cluster fly.

**Distribution in Colorado:** Potentially statewide where suitable species of earthworms are present. This is the most common fly found in buildings during the cool season. Problems with adults entering homes tend to be most severe in higher elevation communities.

**Life History and Habits:** Cluster flies develop as parasites of certain species of earthworms. Many species develop on *Eisenia rosae* (Savigny), an introduced European earthworm that is now widely found in irrigated lawns and moist soil along waterways. The primary species of cluster fly known from Colorado, *Pollenia pediculata* (Macquart), has been poorly studied but its biology is presumed to be similar to other *Pollenia* species.



Figure 2. Cluster fly.

The adults emerge from winter dormancy in mid-Spring and lay eggs singly in soil cracks. Upon hatch the larvae migrate into the soil seeking an earthworm host; when located the tiny maggot penetrates the body wall of the earthworm and then continues its development as an internal parasite. They become full-grown in about 2-3 weeks then pupate. Adults subsequently emerge to produce a second generation and as many as 4 generation may be completed during the growing season.

As day length shortens and soils cool, adults at the end of the growing season seek sheltered areas for overwintering. Buildings provide many cluster flies the crevices and cavities that make good overwintering sites. During late summer and early fall cluster flies will increasingly be

seen resting on sun-warm walls of buildings and, if entry points are available, will later move behind walls. When abundant cluster flies may aggregate in loose clusters in a wall void or other overwintering site, leading to the name “cluster fly”. Concentrations are largest in upper floors of buildings where they can become very abundant on occasion.

For the cool season cluster flies remain in a dormant state, ceasing reproduction and moving little. However, during warm periods some may become active and incidentally enter living areas. They then may be seen flying lazily around rooms for awhile and most subsequently die indoors. If increased numbers of cluster flies are observed in a building during winter this does not indicate indoor breeding but instead results from previously dormant flies behind walls becoming active.

**Related Species:** Some other blow flies, notably in the genus *Calliphora*, also will winter indoors as an adult.

#### **Management of Cluster Flies in Buildings:**

There are a few basic principles in cluster fly management, although it is very difficult to totally prevent building entrance by some flies. Most important is to caulk and otherwise seal all exterior openings on a building prior to when the flies begin to seek winter shelter. In most areas this should probably be done by early September and particular attention should be given to sealing sites on sun-exposed sides and upper stories where cluster flies are most likely to enter.

Insecticides have been used with some success to further prevent cluster fly entry. These can be applied as sprays targeted to cracks/crevices on the building exterior in late summer. Various pyrethroids (e.g., permethrin, bifenthrin, lambda-cyhalothrin, cyfluthrin) labeled for exterior application may be useful for this purpose. Desiccant dusts (e.g., diatomaceous earth, silica aerogels) blown into wall voids may also kill flies behind walls and reduce subsequent accidental movements into living areas.



**Figure 3.** *Eisenia rosae*, an earthworm host of cluster flies.