

Clematis Blister Beetle

Scientific Name: *Epicauta cinerea* (Forster)

Order: Coleoptera (Beetles)

Family: Meloidae (Blister beetles)

Description and Distinctive Features: The clematis blister beetle has the elongate body form and leathery, rather than hardened, wing covers typical of most Colorado blister beetles. Color of the adults is usually either uniformly gray to dark gray. A faint light stripe may be visible on some of the darker forms; this striping is often much more distinct clematis blister beetles found east of the state. Size ranges from 8-17 mm, and is largely dependent on larval diet. The sexes are similar in general appearance.

Distribution in Colorado: Eastern Colorado

Life History and Habits: The life history of the clematis blister beetle is similar in general outline to the other 3 dozen or so *Epicauta* species that occur in Colorado. Larvae develop by feeding on the eggs of grasshoppers. Adult clematis blister beetles lay their eggs during mid-late summer in soil, at sites utilized as “egg beds” for grasshoppers.

The newly hatched blister beetle larva (known as a *triungulin*) is tiny, but highly active and burrows into the soil. Upon finding an egg pod it then molts to a sedentary, grub-like form that begins to feed on the eggs. There then follow a series of additional actively feeding larval stages during which a total of between 21-27 grasshopper eggs is typically consumed. When the sixth instar is reached, a dormant (diapause) larva is produced that is the overwintering stage. In spring development resumes, pupation occurs, and the adults emerge in early summer.



Figure 1. Gray forms of the clematis blister beetle feeding on clematis. Photograph courtesy of Josh Evans.



Figure 2. Dark gray form of the clematis blister beetle. Photograph courtesy of Ginny Sawyer.

Since immature stages of the clematis blister beetle feed on egg pods of grasshoppers, the numbers of adult beetles loosely track the abundance of grasshoppers in the vicinity that were laying eggs the previous summer. Adults feed on foliage of various plants, but *Clematis* is a very common host plant and the one on which high populations are most often seen. Most other hosts on which this insect feeds are in the Ranunculaceae, including *Anemone*, *Delphinium* (larkspur), and pasqueflower.



Figure 3. Severe defoliation by clematis blister beetle. Photograph courtesy of Josh Evans.

Numbers of clematis blister beetle may appear suddenly on plants, often in late July and August. This mass appearance is coordinated by chemical attractants the beetles release, known as aggregation pheromones. The beetles may also depart suddenly on their own when beetles no longer produce these attractants.

Control of clematis blister beetle in home gardens.

In small plantings, it may be easiest to collect beetles by knocking them off plants into a container filled with water. *However, some caution is required.* Blister beetles (Meloidae family) get their common name from the production in their blood of a highly toxic compound, cantharidin, which they can produce as droplets around leg joints (“reflex bleeding”). Cantharidin can irritate skin and is even capable of producing blisters in high enough concentration. Although the clematis blister beetle is a species that produces low levels of cantharidin *it is highly advised that gloves be worn when collecting beetles. Take particular care to avoid rubbing around the eyes with any surface (including gloves) that may contain some of the blood of the blister beetle.*

Several commonly available garden insecticides labeled for use on flowers can control blister beetle adults. Active ingredients that can be useful to control adult blister beetles on ornamental flowers include pyrethrins, carbaryl, zeta-cypermethrin, gamma-cyhalothrin and lambda-cyhalothrin. These are found in many different products that are sold at nurseries, hardware stores, and box stores. Always take care to read the label instructions and only use the product in a way that is specified in the label use directions

Related Species: The clematis blister beetle is one of about 35 species of blister beetles in the genus *Epicauta* that occur in Colorado. All are thought to similarly develop as predators of grasshopper eggs but most, unlike the clematis blister beetle, feed on pollen or less commonly leaves and flowers of plants, particularly legumes. Two common grayish colored species that feed on pollen in late summer are *Epicauta ferruginea* and *E. aspersa*. Perhaps the most commonly seen blister beetle is the [black blister beetle](#), *E. pensylvanica*, which feeds on pollen in late summer and is most abundant on yellow flowering plants such as goldenrod and rabbitbrush.