

Blister Beetles

Order:	Coleoptera (beetles)
Family:	Meloidae (blister beetles)
Metamorphosis:	Complete (egg-larva-pupa-adult)
Mouthparts:	Chewing in larvae and adults



Adult **BLISTER BEETLE**: the black blister beetle, *Epicauta pensylvanica*, see color print, Fig. 4A, on publication B-1013.

There are more than 300 species of blister beetles in the United States. Their shape, size and coloration vary. Adults are foliage and flower feeders and are found on alfalfa, beans, potatoes, and various horticultural plants. The major economic concern is the contamination of alfalfa hay with blister beetles. When blister beetles are ingested by livestock, the gastrointestinal tract may become irritated or swollen. Blister beetles are prevalent in the Great Plains. Their abundance and the associated animal health concerns substantially decrease in the intermountain region of the western United States.

Body Form

Eggs: The eggs are small and yellow. They are sometimes noticed in clusters within a flower.

Larvae: Newly hatched larvae are very active, possessing well-developed legs. Once a feeding site is found, they mature, becoming less mobile and heavily sclerotized. By the sixth instar, the legs of some species are rudimentary, and the body is mummy-like. The feeding site of these species is highly concealed from potential predators.

Pupae: Pupae are nondescript. They are not commonly observed.

Adults: The shape, size, and coloration of blister beetles vary. In Wyoming, three species encountered in alfalfa are the ash-gray blister beetle (*Epicauta fabricii*), black blister beetle (*Epicauta pensylvanica*), and spotted blister beetle (*Epicauta maculata*). They are approximately ¾-inch in length, slender, soft-bodied, and fairly long-legged. The head is clearly visible from above. The pronotum (the “neck”) is long and narrower than the adjacent margin of the elytra (the “back”). The ash-gray blister beetle has dense short gray hairs covering a black body. The black blister beetle is pure black in color. The spotted blister beetle has black spots on a background of dense, short gray hairs.

Life History

Blister beetles overwinter as mature larvae. After completion of larval and pupal development in the spring, adults emerge. Adults are active during the summer and at this time can be found in alfalfa.

Eggs are laid near but not necessarily on the food source of the larvae. First instar larvae are highly mobile and seek out their food sources. Some species (such as those listed above) are beneficial at this stage because larvae feed on grasshopper eggs. Other species are detrimental; some feed on immature bee pollinators. Larval development is completed at the food source. As larvae mature, they become highly sessile, often losing mobility (i.e., the legs become rudimentary and the cuticle becomes hardened).

Plant and Animal Injury

Plant injury itself is of little concern. The adults feed only slightly on foliage and flowers. The major economic concern is the contamination of alfalfa hay. When blister beetles (live or their body parts after death) are ingested by livestock, the animals' gastrointestinal tracts may become irritated or swollen due to cantharidin, which naturally occurs within the body of blister beetles. Horses are particularly susceptible.

Management

During haying, adults can be crushed and can contaminate the hay, particularly when cutting and crimping occurs in the same operation. When hay is cut and allowed to dry in windrows, adult beetles will usually disperse prior to baling. Alfalfa should be inspected for blister beetles just prior to cutting. The plant canopy should be inspected, concentrating on the young foliage, flower buds, and opened flowers. In Wyoming, blister beetles do not appear to congregate in large numbers in alfalfa, but sporadic occurrences do occur. Blister beetles are much more problematic in the Great Plains than in the intermountain region. If hay is at risk for blister beetle contamination, and particularly when it is sold for horse feed, insecticide use is justified.



Adult **Blister Beetle**: spotted blister beetle, *Epicauta maculata*, see color print, Fig. 4B, on publication B-1013.

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