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Master Gardener

What are these flying beetles?

QUESTION: I've noticed lots of these black beetles all over my blooming calendula flowers, shredding the petals. What are these flying beetles and how can I get rid of them?

ANSWER: The insects that are feasting on your lovely flowers are called blister beetles. They are in the order Coleoptera and belong to the family Meloidae.

The black-colored beetles you describe are likely *Epicauta pennsylvanica*, which have been recently identified in southern Lake County in Oregon by an OSU Extension professor. But there are 250 species of blister beetles in the United States, and they can vary in color from black or grey, brown or yellow and sometimes striped or spotted.

Blister beetles got their name because the adults produce a defensive substance called cantharidin in their body fluids. This chemical will blister your skin if the beetle is crushed against it. It is especially toxic to horses, cattle, sheep, goats, dogs, and cats if ingested.

Adult beetles are 1/2-3/4 inch long with a rounded head that has a distinct "neck," with long, thin antennae and legs. The body is soft, not hardened like other beetles, and the wing covers are flexible, loosely covering the abdomen which may protrude beyond the wing edges.

These beetles have a complete life cycle with egg, larval, pupal and adult stages. What is interesting about blister beetles is that the larvae are actually beneficial as they feed on grasshopper egg pods, making them a highly effective biological control agent of grasshoppers.

After mating in late summer, the



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female adults lay their eggs in clusters of 30-50 in the soil in areas of rangeland that also serve as breeding grounds for grasshoppers, so when the larvae emerge in 10-21 days, they feast on grasshopper eggs.

After molting multiple times, the larvae overwinter in the soil and pupate in the spring, emerging as adults in early summer. They have one generation per year. Peak populations occur by midsummer, and they tend to form large

aggregations.

Adult blister beetles largely feed on flowers and foliage of a wide variety of plants including aster, calendula, chrysanthemum, iris, gladiolus, dahlia, zinnia, and many vegetable plants. Their presence in alfalfa when it is blooming is very concerning for cattle and especially for horses that are particularly sensitive to cantharidin.

This chemical persists in the

hay after the blister beetles are crushed when alfalfa or hay is cut. Some research suggests that as few as 10-30 beetles, when ingested by a horse, can cause severe injury and even death.

It's important to know the source of the hay or alfalfa you are feeding your horses – first cuttings are preferable as opposed to late in the season cuttings when the alfalfa is in bloom and could contain blister beetle contamination.

If the infestation of blister beetles is limited to just a few plants, the best way to manage them is to hand pick them off the plants wearing rubber gloves. You can either squish them between your fingers (particularly satisfying!) or knock them into a pail of soapy water.

Regular cloth garden gloves may absorb some of the chemicals and cause skin blisters, so rubber gloves are best to use.

For a more widespread infestation, you can use insecticides containing neem oil or azadirachtin, which is a component of neem oil. These are generally safe for beneficial insects, including bees, but best to use in the evening when bees are not present. Be sure to read and follow thoroughly the product label.

You can also do spot treatments, applying the insecticide only to specific plants that are affected.

Blister beetles are also attracted to certain weeds like pigweed, so removing these from your yard is helpful. The use of row covers to minimize access, or liberally spreading diatomaceous earth around the base of the plants can control the adults that drop off the plants to the soil, eventually reducing the beetle's numbers.

Do you have a gardening or insect question? Contact the Douglas County Master Gardeners at douglasmg@oregonstate.edu or 541-672-4461 or visit 1134 S E Douglas Ave., Roseburg. Douglas County Master Gardeners are trained volunteers who help the OSU Extension Service serve the people of Douglas County.



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