

BLACK VINE WEEVIL: A *SARRACENIA* AND *DARLINGTONIA* PEST

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In the last few years I have heard from a few growers who have had their plants attacked by a pest relatively new to carnivorous plant growers—the black vine weevil, *Otiorhynchus sulcatus*. This plant can devastate *Sarracenia* and *Darlingtonia*.

The black vine weevil is a black, hard beetle slightly less than 2 cm long. It is peppered with tiny patches of short yellow bristles which make its identification easy (Figure 1). This weevil cannot fly, but it can crawl and climb great distances. It is nocturnal, so if you have them nibbling your plants you may only be able to find them if you examine your plants at night. Although these adults can cause some damage to your plants, the main danger is from the larvae.

Weevil eggs hatch in the summer, and the larvae begin their lives by gnawing on plant roots. The larvae are approximately 1.5 cm long (Figure 2), and are generalist pests capable of living on many different plants. They relish *Sarracenia* and *Darlingtonia*. As they mature they travel towards the rhizome, and the real dining begins. They chew their way deeply into the rhizomes, and the damage from just 1-3 larvae can kill a plant. Even if the larvae are removed, the damaged rhizome may succumb to rot. The larvae

overwinter as pupae, and emerge as adults in the spring. The adults forage for food and lay eggs all summer long.

Kevin Snively (who first informed me about this pest) has told me the first symptom of an infestation is the feeling that the rhizome has become loose in the pot (because of the loss of roots). Furthermore, even though the planting mix is moist, the plant may wilt in hot conditions—this is because the damaged root system cannot supply the plant with sufficient water.

If you discover weevil larvae, the best thing to do is isolate the infested plants, then clean them thoroughly. This involves lifting the plants out of the soil, washing the roots, and cutting out infested rhizome sections. Dig the larvae out of the cavities that they have eaten into the rhizomes. You may wish to dust the cuts with sulphur fungicide. Look for larvae in your discarded soil and wash-water—kill all that you find. Repot the plant in fresh mix. This draconian treatment will certainly result in the death of some of your plants, but untreated plants are nearly certainly doomed. (It is particularly frustrating that autumn searches for weevil larvae traumatize the root



Figure 1: *Otiorhynchus sulcatus* weevils.



Figure 2: *Otiorhynchus sulcatus* larvae.

system precisely when pitcher plants should be left undisturbed.)

Black vine weevil has been reported on *Sarracenia* on both the east and west coasts of the USA, as well as in England. This pest seems to prefer coastal areas, but everyone growing *Sarracenia* or *Darlingtonia* should be vigilant.

I contacted entomologist TunyaLee Martin (University of California at Davis), who is studying the black vine weevil's biology. Ms. Martin told me that while a nematode bio-control exists, it is not the instant-kill, silver bullet that carnivorous plant enthusiasts would consider acceptable. (In the time it takes to affect the larvae, significant *Sarracenia* or *Darlingtonia* fatality could occur.) A pesticide like Dursban or Orthene can be effective if it comes in contact with the larvae, but a simple soil drench would probably not work well since the larvae (ensconced in rhizome cavities) are effectively shielded. These pesticides might be more effective if mixed with the soil as a preventative measure. Find out from your local supplier of pesticides if you can buy the appropriate pesticide in a granular form for this strategy.

Since biocontrols and pesticides have such major problems and mechanical treatment (i.e., uprooting and cleaning the plants) is so taxing on the plants, preventing infestations is the best policy. Since the weevils cannot fly and can only crawl, it would be wise to devise physical barriers the weevils cannot defeat. If your pots are in trays on tables, setting the table legs in cups of soap solution may discourage prowling adults. Antifreeze (ethylene glycol) is certainly effective, but since wildlife and pets are attracted to it, drink it, and are poisoned, it should be used with great caution. Plastic trays with steep walls may not provide sufficient protection—black vine weevils are incredible climbers. Even if the trays are difficult to climb when clean, the weevils may be able to scale them if they are even a little dirty.

Be proactive in your preventative measures. Watch for overhanging vegetation that weevils may drop from—they are particularly fond of *Euonymus* bushes. If you are having trouble with weevils, separate all the infested plants. Finally, keep your plants tidy. Pitchers flopping over to other pots or to the ground can allow weevils to move from plant to plant. Experiment. And good luck!

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