

## Plum Curculio



**Plum curculio adult.**

Plum curculio (*Conotrachelus nenuphar*) is a common native insect that damages tree fruits. It is one of the most common and serious pests of apple in Wisconsin and throughout the eastern United States. It will also attack pear and stone fruits such as plum, cherry, peach, and apricot. The adult stage is a weevil (a beetle with the front of the head developed into a curved, elongated snout) that lays eggs directly within fruit.

When the egg hatches in a stone fruit, the larva bores through the fruit and feeds internally until fully grown, at which time it is about 1/4-1/3" long, with a legless, C-shaped cream colored body and brown head. In apple, many of the eggs are killed by the firmness of the young apple tissue and often the only injury is the surface scar where the egg was laid.



**Plum curculio larva.**



**Plum curculio egg laying scars on apple.**



**What does plum curculio damage look like?** The female weevil uses her mouthparts to cut a 1/8-3/16" shallow crescent shaped slit in the surface of the fruit. She then deposits a single egg in the center of the flap of tissue created by this slit. This occurs early in the growing season. As the fruit grows and expands, so does the scar created by the slit. In apple where the plum curculio egg is often killed, this surface scar may be the only type of injury. As it is just at the fruit surface, and because the scar usually completely heals,

the injury is often only cosmetic and can easily be removed when the fruit is used.

In stone fruits such as plum or apricot, the egg laying scars look identical to those on apple, but a drop of clear to amber-colored sap may weep from the wound. In stone fruits the eggs and larvae will survive and cause the fruit to rot internally as they are feeding. Infested fruit often fall from the tree.

Plum curculio adults may feed slightly from the base of flowers prior to egg laying. It is from this area that the fruit develops after pollination and fruits damaged in this way may be very lumpy and misshapen at harvest.



**The sap (left) is from a plum curculio egg laying scar, which is readily visible with the sap removed (right).**



Hole caused by feeding of adult plum curculio.

Finally, in late summer the new generation of adults may feed at the surface of fruit to gain sufficient nourishment to allow them to survive the upcoming winter. These holes are often near the stem end of the fruit. The holes are circular with a rather even edge, with the opening about 3/16" in diameter and the hole about this same depth and often just slightly greater in diameter than the opening.

**Where does plum curculio come from?** Plum curculio is a native insect that occurs throughout the eastern United States and Canada. In its natural environment it survives in wild plum, native crab apple, and hawthorn and these are potential sources of infestation for cultivated trees. Many wild apples and stone fruits occur in woodlots and

fence rows, and neglected or abandoned fruit trees are another source of infestation. In the winter the adult weevils look for wooded areas with an abundance of fallen leaves from deciduous trees or shrubs, where they seek protection from winter extremes. Often, damage to fruit on cultivated trees is more common adjacent to such overwintering habitats.

**When does plum curculio damage occur?** Plum curculio egg laying is an early season event. The beginning of activity of overwintered adult females is a bit unpredictable and depends on the number and timing of warm days in springtime. Usually females enter trees at about the time they are blooming, but in some years this may be delayed as long as 2-3 weeks after bloom. Damage to flowers, resulting in misshapen fruit, occurs during the blossom period. Egg laying occurs for 3-5 weeks after the end of bloom. Fruit feeding by the new generation of adults occurs from late summer until cold weather occurs in the fall.

**How do I protect my fruit from plum curculio injury?** Elimination of wild, abandoned, or uncared for host trees will reduce breeding grounds for plum curculio. However, they are capable of moving significant distance (over ¼ mile) in search of hosts, so if populations are relatively high in the area, host removal may not be practical or sufficiently effective. There are no highly effective traps that intercept plum curculio adults, preventing them from laying eggs. The use of insecticides is the most effective control. Various conventional and organic-approved insecticides are available in garden centers – be sure that your crop of interest is included on the label. One type of non-toxic insecticide that has some degree of effectiveness is based on finely-powdered mineral clay that provides a “particle barrier” around the fruit. This material is mixed with water and sprayed; it has to be reapplied periodically as the fruits grow in size. One common brand is called Surround<sup>®</sup>, available from many garden stores as well as internet gardening companies. Regardless of insecticidal product, the fruit should be protected starting immediately after bloom and then for the following 4-6 weeks.

– Dan Mahr, University of Wisconsin - Madison

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### Additional Information:

- Plum Curculio and Its Control – Ohio State University Extension Fact Sheet HYG-2043-88 [ohioline.osu.edu/hyg-fact/2000/2043.html](http://ohioline.osu.edu/hyg-fact/2000/2043.html)
- Growing Apricots, Cherries, Peaches, & Plums in Wisconsin – UW-Extension publication A3639 at [learningstore.uwex.edu/assets/pdfs/A3639.pdf](http://learningstore.uwex.edu/assets/pdfs/A3639.pdf)