

Agrilus quercicola

Attacks boles and branches of stressed oaks

Name and Description—*Agrilus quercicola* Fisher [Coleoptera: Buprestidae]

Agrilus quercicola, a flatheaded wood borer, attacks stressed oaks. Adults are small, approximately 1/3 inch (8 mm) long, and have small antennae and the characteristic oval body shape. The head, thorax, and abdomen coloration is consistently metallic and varies in shades of green and copper, with the thorax usually more copper-colored and the abdomen usually greener. The elytra (wing covers) are consistently black (fig. 1). Larvae are white, legless grubs with the appearance of a flattened head.



Figure 1. Adults of *Agrilus quercicola*. Photo: Andrea Sever, Colorado State University.

Hosts—Oak species; specifically associated with native stands of Gambel oak, *Quercus gambelii*

Life Cycle—There is one generation annually. Adults begin to emerge in late May from D-shaped exit holes (fig. 2). Peak flight is mid-June, and flight continues into August. Eggs are laid in the outer layers of the bark. Larvae develop under the bark in the cambium layer and then tunnel into the sapwood and heartwood (fig. 3). *Agrilus quercicola* overwinters as larvae under the bark.



Figure 2. D-shaped exit holes of *Agrilus quercicola* and round-shaped exit hole of a parasitoid (upper right). Photo: Andrea Sever, Colorado State University.



Figure 3. *Agrilus quercicola* larval galleries. Photo: Andrea Sever, Colorado State University.

Damage—In 2003 and 2004, there were numerous reports of a borer attacking and damaging nursery and ornamental oaks along the Colorado Front Range and Durango-Cortez areas. It was determined that these attacks were caused by an outbreak of *A. quercicola*, which was also attacking and damaging surrounding native Gambel oak (fig. 4). A build-up of borer populations in Gambel oak was due to years of drought conditions combined with late frost, causing stress and dieback of Gambel oaks. The most obvious sign of an *A. quercicola* attack was the wide, meandering galleries under the bark. Holes that penetrate into the wood were also present. Emerging adults left D-shaped, cleanly cut exit holes.



Figure 4. Damage to gambel oak in Douglas County, Colorado, due to *Agrilus quercicola*. Photo: Andrea Sever, Colorado State University.

Management—This native insect rarely achieves pest status. Populations of *A. quercicola* naturally decline with normal rainfall that lessens stress on oak trees.

1. Sever, A.L. 2005. Shade tree insect pest management studies: I. Evaluation of non-target effects of pesticides on arthropods: II. Biology of two emergent insect pests of oak. Fort Collins, CO: Colorado State University. 57 p. Thesis.