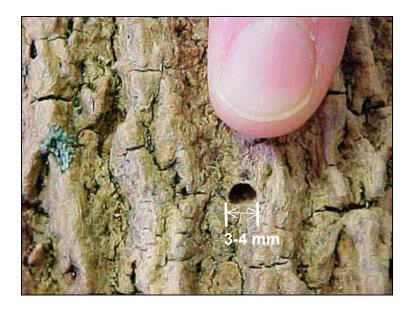




EAB gallery and exit hole (1/8 inch)



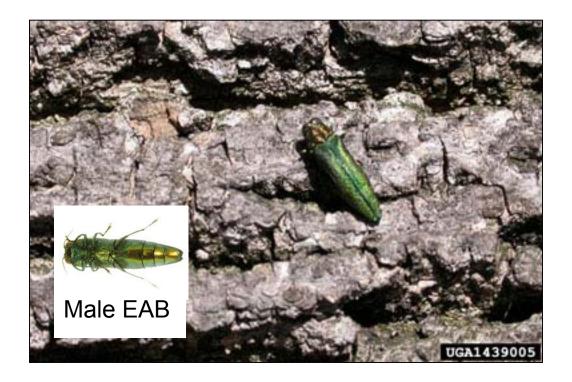
Signs of EAB attack in bark 1/8 inch exit hole



EAB adult (1/2 inch) and gallery Look for adults – May through July



Adult EAB, 1/2 inch



NOT an emerald ash borer





D-shaped exit holes, 1/8 inch



Look closely for the d-shaped exit hole, 1/8 inch



Canker formed from EAB infestation. Note WINDING galleries



Typical crack at infested region of bole



Epicormic branching associated with infested tree







Sprouts beneath infested area of bole



Dying branches possibly associated with infested ash





Possible early symptoms of EAB attack



Possible EAB symptoms -later stage of infestation



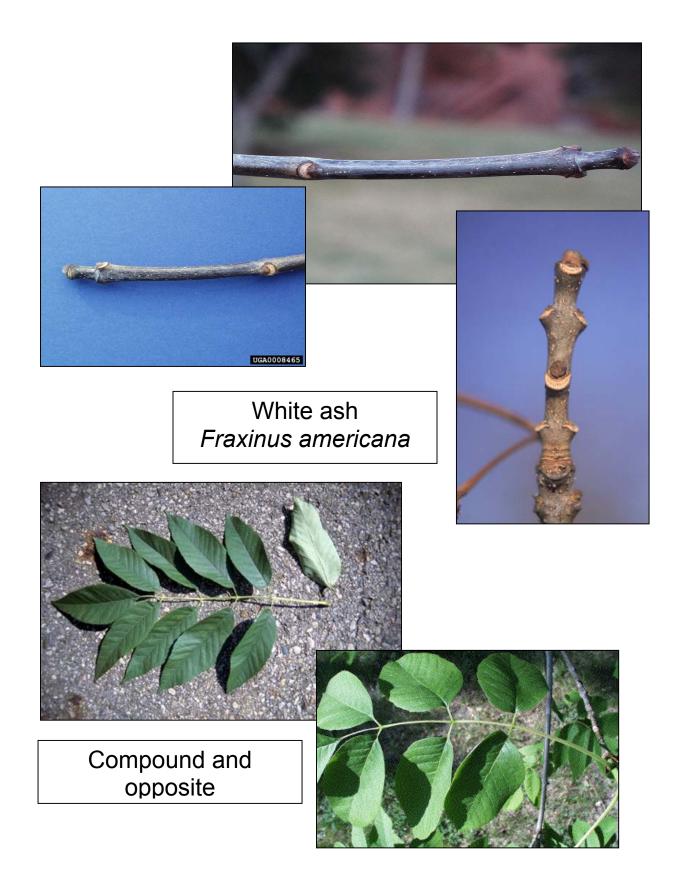
Woodpeckers may be a sign of EAB or other borer or bark beetle infestation Ash leaves, compound and opposite





Healthy ash trees







Green ash *Fraxinus pennyslvanica Compound and opposite*







Stem canker caused by *Cytospora pruinosa*

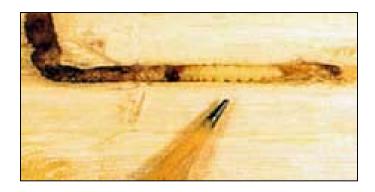


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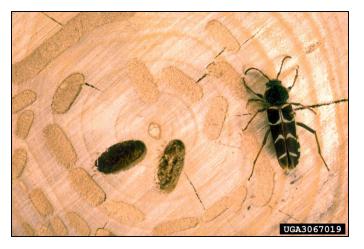
Banded Ash Clearwing *Podosesia aureocincta*





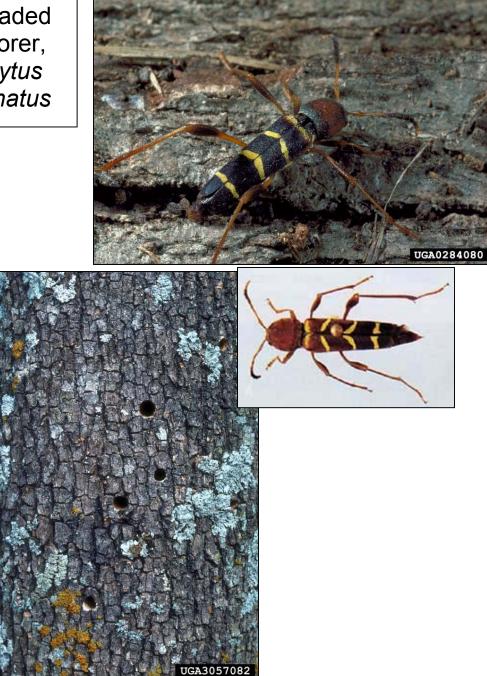
Larvae exude strands of woody frass from 1/8 inch holes in the trunk. Frass can often be found piled at the base of infested trees.

Banded ash borer *Neoclytus caprea*

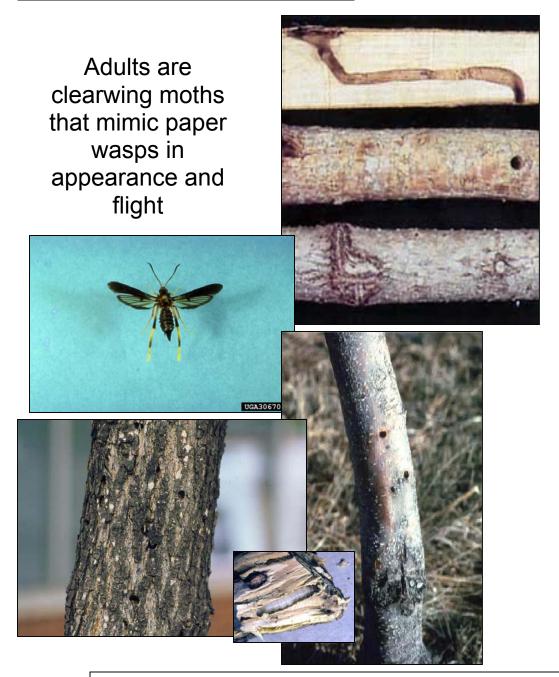


Round exit holes. Larval galleries packed with frass.

Redheaded Ash Borer, *Neoclytus acuminatus*



Look for sap spots with fine boring dust –early attack Later, frass is discharged from entrance holes, Exit holes are round Ash/Lilac Borer (trunk borer), Podosesia syringae



Circular exit holes often with pupal skins protruding



Eastern ash bark beetle *Hvlesinus aculeatus*





Ash cambium miner *Phytobia spp.*

Mining can only be seen under the bark



Photos obtained from the following sources:

Michigan State University http://www.forestryimages.org Michigan Department of Agriculture University of Georgia University of Illinois University of Nebraska