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# Signs and Symptoms of the Emerald Ash Borer

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# Adult





Michigan State University

- Bright, metallic green (Figs. A, B).
- 1/2 inch long, flattened back (Figs. A, B).
- Purple abdominal segments beneath wing covers.

# **Canopy Dieback**



E. Rebek, MSU

- Begins in top one-third of canopy (Fig. D).
- Progresses until tree is bare (Fig. E).







#### Larva



D. Cappaert, moo

- Creamy white, legless (Fig. C).
- Flattened, bell-shaped body segments (Fig. C).
- Terminal segment bears a pair of small appendages.

# **Epicormic Shoots**



J. Smith, USDA APHIS PPQ

- Sprouts grow from roots and trunk (Figs. F, G).
- Leaves often larger than normal.



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### **Bark Splitting**





J. Smith, USDA APHIS PPQ

A. Storer, Mich. Tech. Univ

- Vertical fissures on bark (Fig. H) due to callous tissue formation (Fig. I).
- Galleries exposed under bark split.

# Serpentine Galleries and D-shaped Exit Holes





D. Cappaert, MSI

- Larval feeding galleries typically serpentine (Fig. J).
- Galleries weave back and forth across the woodgrain.
- Packed with frass (mix of sawdust and excrement).
- Adults form D-shaped holes upon emergence (Fig. K).

# Increased Woodpecker Activity/Damage





Karen D'Angelo, MS

- Several woodpecker species (Fig. L) feed on EAB larvae/pupae.
- Peck outer bark while foraging (Fig. M).
- Create large holes when extracting insects (Fig. M).



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