

# Signs and Symptoms of the Emerald Ash Borer

Mary Wilson, MSU Extension. Eric Rebek, Michigan State University Dept. of Entomology

## Adult



Michigan State University



Michigan State University

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

## Larva



D. Cappaert, MSU

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

## Canopy Dieback



E. Rebek, MSU



E. Rebek, MSU

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

## Epicormic Shoots



J. Smith, USDA APHIS PPQ

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



J. Smith, USDA APHIS PPQ



MICHIGAN STATE UNIVERSITY EXTENSION



## 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



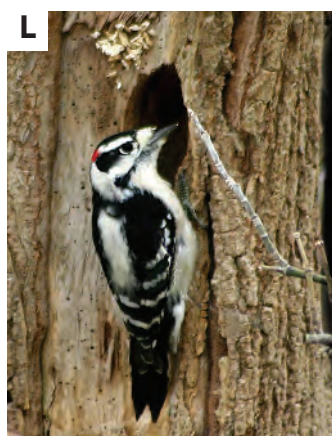
D. Cappaert, MSU



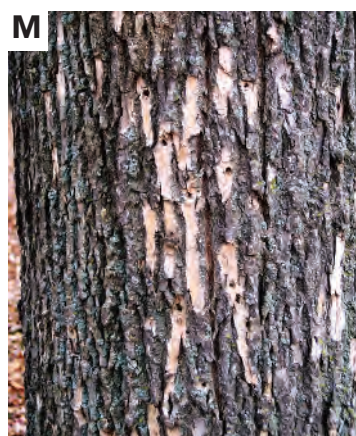
D. Cappaert, MSU

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

## Increased Woodpecker Activity/Damage



D. Cappaert, MSU



Karen D'Angelo, MSUE

- 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).