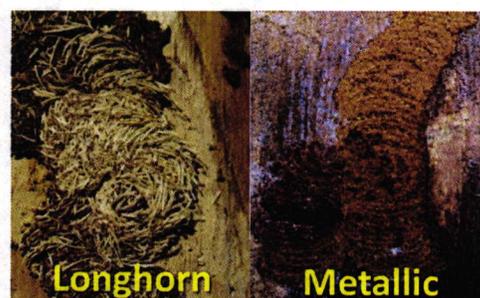
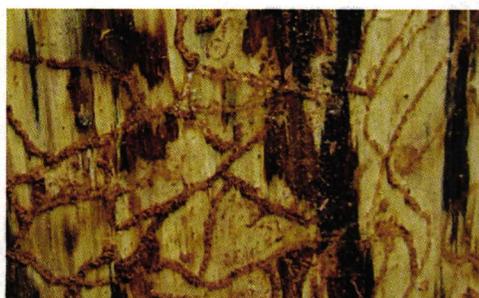


# Fire and Insects: Key Pests



- **Douglas-fir beetle**
  - Only attacks Douglas-fir
  - Distinctive gallery
  - One generation/yr
    - will attack the season following the fire
  - Pheromones available (MCH)

- **Western pine beetle**
  - Only attacks Ponderosa pine
  - Distinctive gallery
  - 2+ generations/yr
    - can attack the same season as fire
  - No protective pheromones

- **Wood borers**
  - Two common groups
    - Longhorn beetles
    - Metallic wood borers
  - Distinctive galleries
  - Will attack most conifers
  - 1+ years per generation
    - Attacks the same season as fire
  - No pheromones available

## Tree Susceptibility to Fire

- **Ponderosa pine scorch guidelines**  
**Direct mortality from:**
  - >75% crown scorch
  - >50% cambium scorch
  - >50% root loss

- **Douglas-fir scorch guidelines**  
**Direct mortality from:**
  - >50% crown scorch
  - >50% cambium scorch
  - >50% root loss

## General Management Recommendations

- Remove fire scorched timber if it is in your management plan.
  - Sooner rather than later.
- Western pine beetle and borers can attack the same year that the fire occurred.
  - Borers can cause blue stain in pine by fall.
- Protective pheromones are available for Douglas-fir beetle, but not western pine beetle or wood borers.