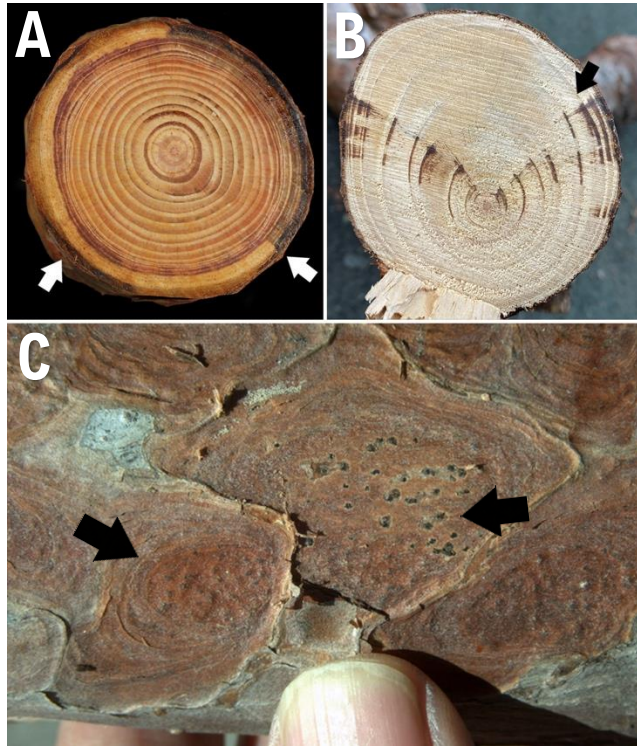


# Pine Ghost Canker in Southern California



**Figure 1.** Symptoms of pine ghost canker on lower branches.



**Figure 2.** Ghost cankers in cross sections of symptomatic branches. **A**, Arrows showing margin of cankered phloem tissue. **B**, Bleached out wedge-shaped canker. **C**, Pycnidia under bark scales.

## Background

- Pine ghost canker was first observed in 2018 and later reported in Orange County, affecting mature pine trees of different species<sup>1</sup>
- Five species of fungal pathogens cause the disease<sup>2</sup>
  1. *Neofusicoccum mediterraneum*
  2. *Neofusicoccum parvum*
  3. *Neofusicoccum stellenboschianum*
  4. *Neofusicoccum luteum*
  5. *Neofusicoccum vitifusiforme*

## Symptoms

- Branch dieback that initiates from lower branches and spreads to upper branches (**Fig. 1**). In severe cases, trees can die.
- Darker discoloration in the phloem in the early stages of infection (**Fig. 2A**), causing wedge-shaped bleached out discolorations in the wood as infection advances – a.k.a. ‘ghost cankers’ (**Fig. 2B**).
- The pathogen eventually produces pycnidia (reproductive structures) on dead wood that harbor spores responsible for new infections (**Fig. 2C**).

## Disease Management

- Prune dead branches at least 3-5 inches below the discolored area.
- Disinfect pruning tools between trees using either 70% ethanol, sodium hypochlorite (bleach), Lysol®, or hydrogen peroxide.
- Avoid pruning during or immediately after wet conditions, when fungal spores are discharged from the fruiting bodies.
- Properly dispose of pruned branches away from the site.
- Avoid wetting tree trunks with sprinkler irrigation.

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## References

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