

Visual Identification of Decay Fungi of Living Trees

Introduction

Decay fungi of living trees can be categorized and named using a number of different methods. Accurate identification provides valuable information about the impact of decay on the tree, mode of action and importance to risk analysis. The presence of any fruiting body on a tree requires that the tree be investigated more closely for decay. Identification of the 18 most common fungi of living trees in the Eastern and Central United States includes the following key factors:

1 The Fungi That Cause Decay

Taxonomy/Classification

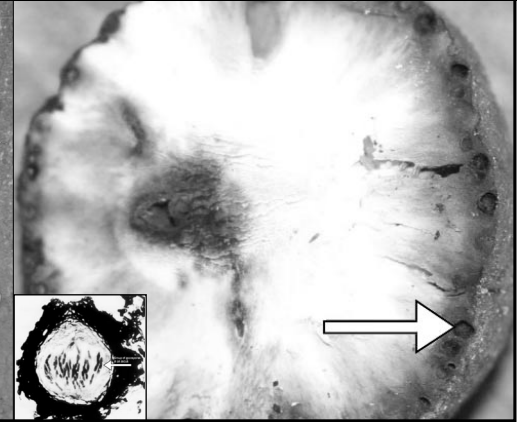
- Basidiomycetes
- Ascomycetes

The vast majority of common tree decay fungi are basidiomycetes.

Basidiomycetes



Ascomycetes



2 Name of Decay Based on Location

Note that each fungus is specific to the location on the tree where it is found.

Root and Butt

Armillaria spp.
Grifola frondosa
Ganoderma lucidum
Inonotus dryadeus
Ustulina deusta
Xylaria polymorpha

Trunk and Butt

Laetioporus sulphureus
Ganoderma applanatum

Trunk and Stem

Pleurotus ostreatus
Polyporus squamosis
Schizophyllum commune
Climacodon septentrionalis
Cerrena unicolor
Daedalea quercina
Phellinus robineae
Fomes fomentarius, Phellinus ignarius
Perenniporia fraxinophila
Common Sap rots

Root Rot



Butt Rot/Heart Rot



Trunk and Stem



Sap Rot



3 Types of Wood Decay

White Rot

Decays mostly lignin and secondarily cellulose.

Brown Rot

Decays mostly cellulose and secondarily lignin. Great strength loss occurs in initial stages of decay.

White Rot



Brown Rot



General Key to Wood Decay Fungi

- Annual
- Fleshy mushrooms with gills

Armillaria spp.
Pleurotus ostreatus
Schizophyllum commune



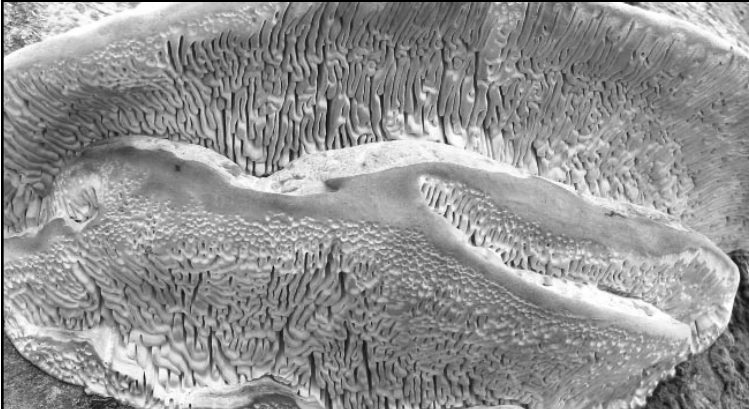
- Annual
- Soft and fleshy with pores

Grifola frondosa
Laetiporus sulphureus
Polyporus squamosus



- Annual/Perennial
- Maze-like pore surface

Daedalea quercina
Cerrena unicolor



- Perennial
- Hard and woody with pores

Fomes fomentarius, *Phellinus ignarius*
Ganoderma applanatum
Perenniporia fraxinophila, *Phellinus robineae*



- Annual
- Tougher and woody with pores

Ganoderma lucidum
Inonotus dryadeus



- Annual
- Soft and fleshy with toothed pore layer

Climacodon septentrionalis



- Annual
- Numerous small fruiting bodies with gills, smooth or pores

Sap rot



- Annual/Perennial
- Black or whitish-gray and crusty

Xylaria polymorpha, left
Ustulina deusta

