Identifying Common Tree Pests & Diseases

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Revolutionary Plant Health Solutions

Pest & Disease
“Look A Likes”

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Drought Symptoms

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Herbicide Damage

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Salt Damage

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Pest & Diseases

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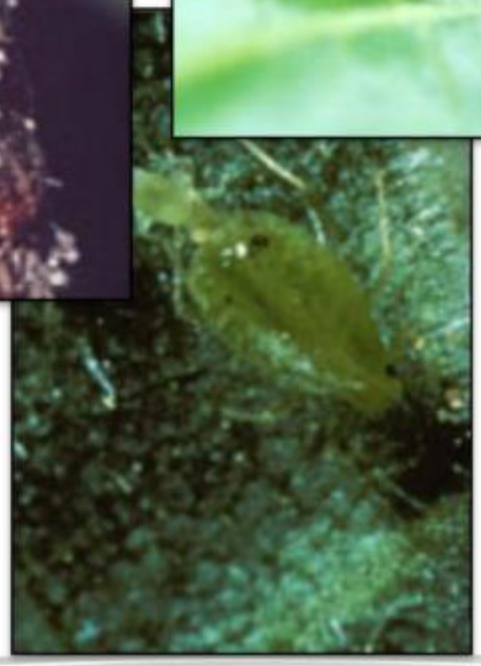
Aphids

- On all species of trees and shrubs
- Urban situations



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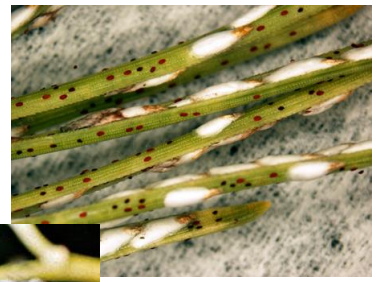
Hard and Soft Scale Insects

Hard Scale on Magnolia

Hard Scale, also known as Armored Scale secrete a hard protective covering over themselves that is not part of their body

Pine Scale



Oyster Shell Scale

Cottony Scale

Soft scales produce a soft, thin, cottony, powdery or waxy layer over themselves that cannot be separated from the insect body

Sycamore Scale

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Sycamore Scale

Fall application with Imidacloprid

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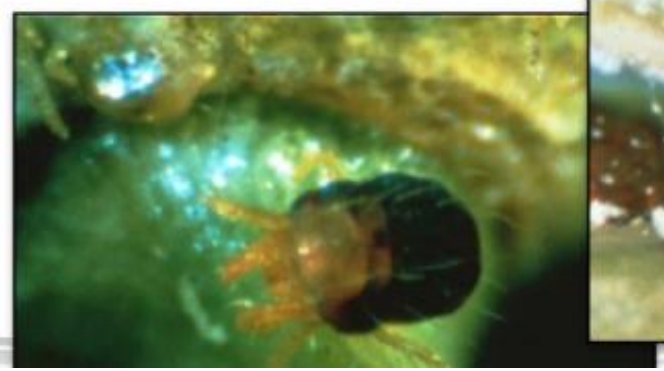
Mites

- most species of conifers; very common on Colorado blue spruce & arborvitae
- primarily urban problem



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Whitefly & Thrips

- Mobil pests require high chemical concentrations
- They also require full chemical coverage for control

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Red Gum Lerp Psyllid & Tortoise Beetle

The Lerp Psyllid use honeydew exude to create the lerp (protective white shell)

Repeated heavy attacks contributes to tree decline and premature death

Tortoise Beetle signs are very distinct, due to the cresent shape feeding on the leaves

Generally do not cause significant harm to trees

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Fall Webworm

Hyphantria cunea

- Hosts: 85 species include; walnut, fruit trees, cottonwood, maple, pecan, elm, hickory, willow, alder, persimmon, Sweetgum.
- Life Cycle:
  - Overwinter as pupae in ground, leaf liter, or under bark. Adults emerge in summer, mate and lay eggs.
  - Larvae feed on leaves, late summer to fall
- Damage: Defoliation typically seen closer to branch tips, along with webs.
- Treatment: Acephate, Emamectin benzoate, Azadirachtin

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Bronze Birch Borer Life cycle

- Life cycle 1-2 yrs. Depends on tree condition, time of hatch, location (north/south) , temp.
- Develop faster in stressed or dying trees
- In vigorous tree life cycle is two years, or larvae dies
- Adults emerge late Spring to mid-summer
  - Emerge from “D” shape holes, mate, lay eggs
  - Eggs laid cracks, crevices, around 10 per cluster
  - Larvae hatch in 2 wks. bore into cambium, create zigzag galleries under bark
- Damage caused by vascular disruption; water, food

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Mountain / Western Pine Beetle

•Female beetles release pheromones to attract males and encourage mass attacks.

• Typical signs include: Pitch tubes, bark flaked off, changing canopy color, woodpecker damage.

•Almost all Pines are susceptible

•Greatest risk to Pines:

- •Older than 80 years
- •Greater than 8” DBH
- •Weakened by Drought, damage, or adjacent trees

Blue Stain Fungus causes additional decline in Lodgepole and Ponderosa Pines, Douglas Fir and white pines.

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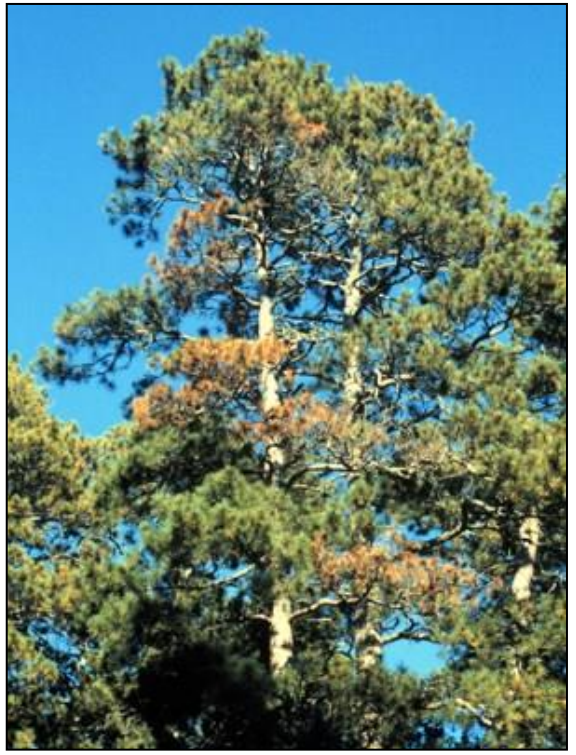
IPS Engraver Beetles

- 25 species in west, attack pines and spruce primarily
- Most destructive species in California is the six-spined IPS
- Early Ips signs include dust in bark crevices, around entrance holes, or on ground.
- Pitch tubes seldom present, boring dust dry & free of pitch
- Foliage of attacked trees progresses from green to yellow, red to reddish brown.
- One generation may be completed in 21-40 days in summer or require several months in winter



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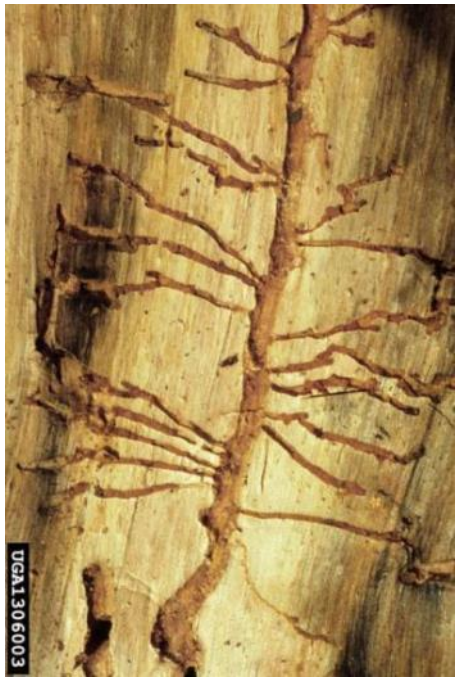
Bark Beetle Galleries

(www.forestryimages.org)



Mountain pine beetle

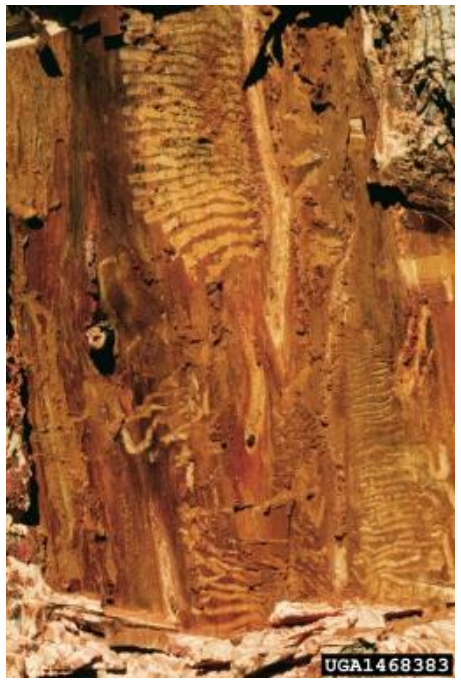
Dendroctonus ponderosae

1/8-1/3 in.

Spruce beetle

Dendroctonus rufipennis

1/8-1/4 in.



(CSFS)

Western pine beetle

Dendroctonus brevicomis

1/16-3/16 in.

Ips engraver beetle

Ips sp.

1/3-1/4 in.

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Botryosphaeria Canker

"Bot Canker"

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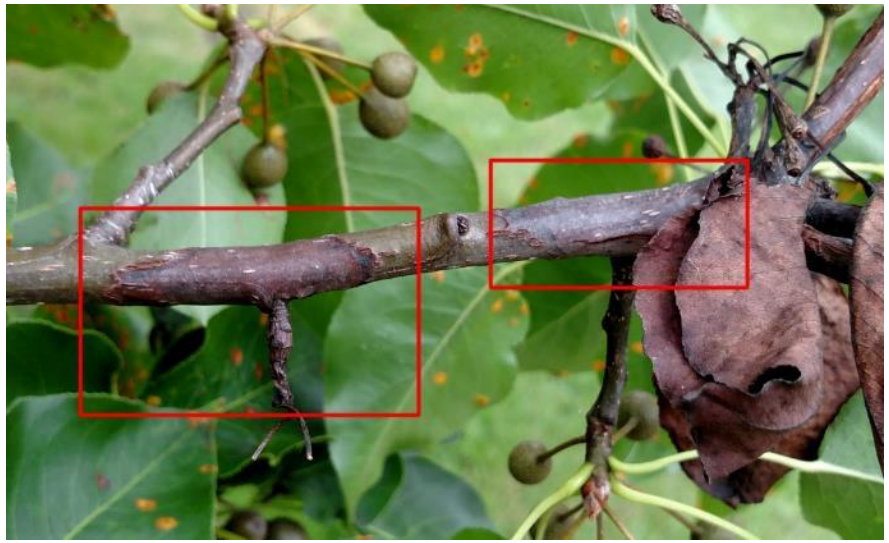
Fire Blight



Incurable bacterial disease spread by pruning tools and insects

For best control measures, treat with Oxytetracycline in Spring

Prune out diseased wood 2-3 weeks prior to applications

Limbs needs to be cut 6-12 inches below disease site

All tools should be sanitized in between cuts

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Anthracnose

Phosphorous applications in the fall works best

Propiconazole is used best in fall but can be used in spring again anthracnose

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Powdery Mildew

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Dutch Elm Disease

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Rusts

- Various species of rusts
- Most common on conifers are white pine blister rust and western gall rust
- Primarily in woodland situations

Black Diamond Scale

- Not actually a pest but a fungus
- Removing old fronds does not remove the problem

- Phosphorous and nutrient applications can suppress the disease

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Fusarium Wilt of Palms

- Fusarium wilt is very host specific
- Affects *Phoenix Canariensis* and *Washingtonia Robusta*
- Caused by Fungi *Fusarium oxysporum* f. sp. *canariensis*.
- Causes decline and eventual death of palms

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Invasive pests to look for

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Invasive Shot Hole Borer

Female

Male

Thousands of severely infected trees have died, and/or been removed in both natural and landscaped areas!

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The Damage

- The female beetle takes about a week to tunnel into the xylem of a healthy tree
- She then lays her eggs and plants the fungus the larvae feed on, that causes fusarium dieback
- The female then backs up to the opening to protect her eggs
- Larvae will reach maturity in about a month
- Once mature, they come out of the hole, walk over and tunnel right back into the tree
- The disease and tunneling disrupt the flow of water and nutrients, thereby causing dieback and eventually death

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Sycamore Signs PSHB

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Olive

Olea europaea
FD-susceptible host

◄ LEAF ID

Symptoms
Gumming, staining

Coast Live Oak

Quercus agrifolia
Native reproductive host

LEAF ID ►

Symptoms
Staining

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Kentia Palm

Howea fosteriana

Photo Credit: Donald Hodel

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Western Oak Bark Beetle Causing Foamy Bark Canker Disease on Coast Live Oak

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Symptoms of FBCD

Fig. 2. A Cinnamon colored gum, followed by a creamy, foamy sap, running down the bark.

Fig. 4. Brown canker caused by the fungus in the bark.

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SOUTH AMERICAN PALM WEEVIL

- Discovered on Canary Island Date Palms in San Ysidro in March of 2016
- It has since been found in Chula Vista, Spring Valley Bonita, El Cajon and Balboa Park, and Mission Beach
- Native to Mexico, Central and South America
- Weevil feeds on the palm's meristem, eventually leading to death of the palm
- It is also known to infest coconut and king sago palms
- Red Ring Disease (caused by a nematode) is vectored by SAPW, but has not yet been found in the US

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Spotted Lanternfly

- Lycorma delicatula (White)
- Native Asia
- Discovered in PA in fall of 2014
- Arrived as eggs on packing material
- Eradication did not happen
- Huge consequences
- Most recent find of a live SLF in Davis, CA

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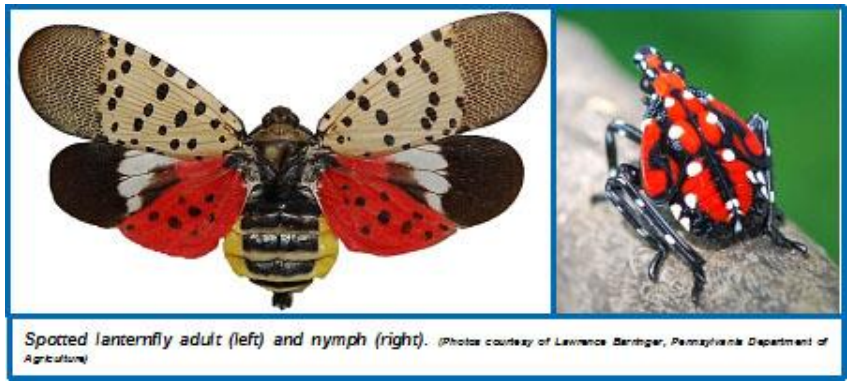
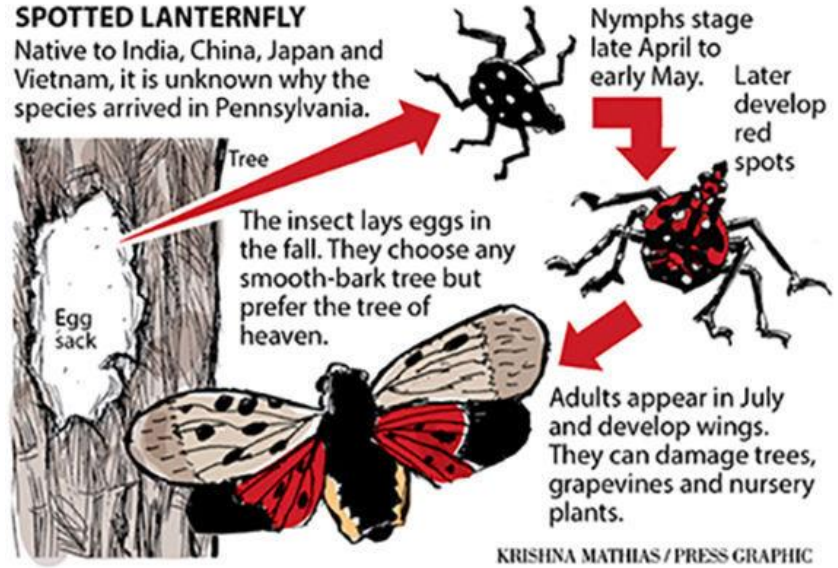
Spotted Lantern Fly

- Exponential Reproduction
- Ability to use wide variety of hosts
- Mobility
- No General Predators
- Birds avoid
- Population has gone unchecked
- Female lay between 30-150 eggs

Egg Mass



Spotted lanternfly adult (left) and nymph (right). (Photos courtesy of Lawrence Barringer, Pennsylvania Department of Agriculture)



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Attacking Grapes

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Attacking Apples

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  - QUIK-jet Replacement Kit
  - Glass Barrel
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www.arborjet.com/survey

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Thank you!

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* Available for demonstrations

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