Shade Tree Insect and Mite Pests

Larry A. Sagers

Warning: The information in this series may be obsolete. It is presented here for historical purposes only. For the most up to date information please visit The Utah State University Cooperative Extension Office

Recommended Citation
http://digitalcommons.usu.edu/extension_histall/1553
Shade Tree Insect and Mite Pests
Larry Sagers
Extension Horticulture Specialist
Utah State University Extension Service
Thanksgiving Point Office

Shade tree pests cause problems including:

- Nuisance
- Defoliation
- Tree structural damage
- Death
- Stress that increases susceptibility to other pests

Pest control is difficult for many reasons:

- Homeowners lack ability to identify pests and affected plants
- Homeowners lack equipment to spray trees effectively
- Homeowners lack resources or desire to control pests

Pest control is difficult for many reasons:

- Life cycles and control methods are not known
- Neglected or abused trees become pest breeding sites

Insect problems intensify if trees are stressed by

- Soil problems
- Pollution
- Diseases
- Planting disorders
- Water problems
- Other environmental problems

Aphids

- Host
  - Many Plants
- Symptoms
  - Leaves curl or twist in the spring
  - Honeydew on leaves or dripping from tree
  - Insects on leaves or branches
  - Growth of black, sooty mold

Aphids

- Control
  - Monitor predators including ladybugs, green lacewings, and others.
  - Do not spray if numbers of predators are developing.
  - Use spray oil, soaps, malathion, or acephate (Orthene). Dormant oil controls early outbreaks.

Honeysuckle Witches'-Broom Aphid

- Hosts
  - Shrub honeysuckle
- Description
  - Similar to other aphids
  - Cause overabundance of side shoots that resemble witches brooms

Honeysuckle Witches'-Broom Aphid

- Damage
  - Curls leaves and causes formation of spindly side shoots
- Control
  - Prune early in season
  - Resistant varieties
- Systemic insecticides (Orthene)
- Soil application (Merit)

Wooly Aphids
- Hosts
  - Mainly conifers
  - Apple wooly aphid -- apples and elms
- Description
  - Secrete wax-like “wool” threads that cover body
Wooly Aphids
- Damage
  - Galls
  - Leaf Curl
  - Honeydew covered with black mold
- Control
  - Susceptible to carbaryl

Ash or Lilac Borer
- Larvae of clear-winged moth
- Host
  - Ash and lilac trees
- Symptoms
  - Branches dying in tops of trees
  - Large holes present in trunk or large limbs
Ash or Lilac Borer
- Control
  - Prune out affected areas.
  - Keep trees healthy by proper fertilization and watering.
  - Spray with pyrethroids about May 20th.
  - Pheromone traps used for proper spray timing.

Aspen Twig Gall
- Host
  - Aspen trees and other poplars
- Symptoms
  - Marble sized galls on small twigs
  - Caused by the feeding of a small fly
Aspen Twig Gall
- Control
  - Causes cosmetic damage so control is not usually warranted
  - Remove and destroy infested branches.
  - Spray when holes appear in galls, but spraying is NOT likely to be highly effective

Bark Beetles (Elms)
- Host
  - Elm trees of all species
- Symptoms
  - BB sized holes in trunk
  - Transmit Dutch Elm disease (American elm susceptible)
  - Galleries or tunnels under bark
Bark Beetles (Elms)
- Control
  - Keep trees vigorous by watering and fertilization.
  - Prune out dead or damaged wood.
  - Spray after leaves emerge with pyrethroids.

Dutch Elm Disease Vectored by Elm Leaf Beetle
Bark Beetles
- Host
  - Many conifers
- Symptoms
  - Feeding damage under tree bark often producing intricate galleries
Trees show flagging, and eventual death with severe infestations. May vector fungal diseases.

**Bark Beetles**
- **Control**
  - Keep trees vigorous.
  - Remove dead and infested trees; these serve as breeding sites.
  - Pyrethroid sprays on the trunks prior to egg laying are expensive but effective if timed correctly.

**Black Walnut Bark Beetle**
- **Host**
- **Symptoms**
  - Death of trees
  - Holes in bark
  - Wilted branches

**Control**
- Recommendations not yet established.

**Boxelder Bugs**
- **Host**
- **Symptoms**
  - Insects feed on newly emerging seeds and foliage
  - Insects collect in winter months on warm exterior walls

**Control**
- Main complaint is insects invading buildings. Seal openings to prevent insect entry.
  - Remove female boxelder trees.
  - Spray immature insects with sevin or pyrethroids in the spring when they are small.

**Bronze Birch Borer**
- **Host**
- **Symptoms**
  - Limbs dying in the tree tops
  - D-shaped exit holes in trunk or large limbs

**Control**
- Keep birches vigorous with adequate water and fertilizer.
  - Control iron chlorosis.
  - Prune out dead wood.
  - Apply pyrethroids to trunks and limbs in mid May when beetles emerge.

**Eriophyd Mites**
- **Hosts**
- **Symptoms**
  - Produces galls on leaves and twigs
  - Galls often are misshapen and have unusual colors

**Hackberry Nipplegall**
- **Host**
- **Symptoms**
  - Prominent warty leaf galls on the underside of leaves, often covering the entire leaf
Hackberry Nipplegall
- **Control**
  - Often controlled by parasitic wasps.
  - Overwintering psyllids are important prey for birds.
  - Chemical control is rarely necessary but acephate (Orthene) is highly effective

Leaf Beetle
- **Host**
  - Elms
- **Symptoms**
  - Leaves skeletonized or chewed by yellow and black striped 1/4 inch larva or yellow-tan and green striped beetles

Leaf Beetle
- **Control**
  - Seal buildings to avoid invasion
  - Use acephate (Orthene), sevin, malathion, when insects are feeding in May-June.
  - Apply sevin as a trunk band (2-3 ft wide) when larvae begin to pupate
  - Biological controls available.
(M-one - BT for beetles)

Leaf Miner
- **Host**
  - Birch, boxwood, lilac, poplar and others
- **Symptoms**
  - Leaves browning
  - Tunnels or tracking present in leaves when held up to the light
  - Usually only cosmetic damage

Leaf Miner
- **Control**
  - Ignore damage unless severe
  - Spray timing very important.
  - Spray with malathion or acephate (Orthene).

Leaf Rollers, Canker Worms
- **Host**
  - Boxelder and many others;
  - Gambel oak attacked by canker worms
- **Symptoms**
  - Skeletonizes leaves of boxelder and will defoliate entire trees
  - Worms often hang from trees on silken threads

Locust Borer
- **Host**
  - Black locust
- **Symptoms**
  - Large holes
  - Abundant sawdust
  - Severe damage to trunk and larger limbs

Locust Borer
- **Control**
  - Keep trees vigorous.
  - Woodpeckers feed on larvae.
  - Apply pyrethroids at 3 week intervals beginning mid August with 3 applications.

Peach Tree Borer
- **Host**
  - All prunus species including fruiting forms
- **Symptoms**
- Holes or cast insect skins or gumming just above soil line
- Tree declining without other apparent causes

**Peach Tree Borer**
- **Control**
  - Apply pyrethroids to trunk and let puddle on soil the first week of July and August.
  - Don't let the spray touch fruit.

**Pear or Cherry Slug**
- **Host**
  - Pears, plums, cherry and others
- **Symptoms**
  - Leaves are skeletonized
  - Upper surface of leaves are eaten away leaving net-like veins on surface

**Poplar Willow Borer**
- **Host**
  - Poplars, including aspen, willows
- **Symptoms**
  - Large holes 3/8” in diameter in trunk and branches
  - Dieback of branches
  - Sawdust apparent in borer holes

**Sawflies**
- **Hosts**

- Mainly conifers, also some deciduous
  - **Description**
    - Class, not a single species
    - Similar to caterpillar visually
    - Differentiated by six or more pair of prolegs on abdomen (caterpillars, 2-5)
    - Adults are stout-bodied, non-stinging wasp

**Scale**
- **Host**
  - Many trees
- **Symptoms**
  - Limbs doing poorly
  - Partial death of branches
  - Small, raised areas on leaves or branches

**Seed Pod Gall Midge**
- **Host**
  - Honey locust trees
• Symptoms
  – Leaves become swollen and look like seed pods

Seed Pod Gall Midge
• Control
  – Ignore damage unless severe.
  – Select tolerant varieties.
  – Female midges overwinter in leaf or soil debris; rake leaves in fall.
  – Chemical control is usually ineffective. Acephate (Orthene), applied gives some control every 1-2 weeks.

Shothole Borer
• Host
  – Cherry, apple, hawthorne and many others
• Symptoms
  – Declining tree health or lack of vigor that resembles drought
  – BB sized holes in trunks or large limbs

Shothole Borer
• Control
  – Keep tree growing vigorously.
  – Spraying usually not effective.
  – Prune out affected branches.

Spider Mites
• Host
  – Many species
• Symptoms
  – Brown discoloration of foliage occurring during hot weather
  – Webbing sometimes present
  – Use the paper-check for mites

Spider Mites
• Control
  – Keep trees clean.
  – Use dormant oil, summer oil, or soap sprays as needed.
  – Use sprays of keltane or vendex, oil or soap; will kill predators as well as damaging mites.

Spruce Spider Mite
• Hosts
  – Spruce
  – Juniper
  – Pine
• Description
  – Green, no spots on sides
  – Orange eggs on needles and twigs

Spruce Spider Mite
• Damage
  – Discoloration
  – Needle drop
• Control
  – Use dormant oil, summer oil, or soap sprays as needed
  – Avoid using insecticides that kill their predators (Carbaryl, Malathion)

Spruce Gall Aphid
• Host
  – Spruce and Douglas fir
• Symptoms
  – Large swollen galls on new growth
  – Primarily visual damage
  – Damaged young spruce trees by preventing new growth

Spruce Gall Aphid
• Control
  – Ignore damage.
  – Prune out galls.
  – Monitor white, cottony aphids on new growth.
Sprays of sevin or pyrethroids as the new growth unfolds may be effective.

Stinkbug
- **Host**
  - Birch trees
- **Symptoms**
  - Small 1/4 to 3/8” insects with a disagreeable odor on leaves and seed pods

Stinkbug
- **Control**
  - Mobile pest so control is difficult.
  - New arrive even if others are destroyed.
  - Acephate (Orthene) is registered for birch pests.
  - Apply when problem occurs.

Sycamore Plant Bug
- **Host**
  - Sycamore Trees
- **Symptoms**
  - Numerous small holes throughout the leaves because the bugs feed on the developing buds.

Sycamore Plant Bug
- **Control**
  - Common only in certain areas
  - When you see damage it is too late for control.
  - Most insecticides including oils work but are not recommended

Trunk Borer
- **Host**
  - Many trees
- **Symptoms**
  - Coarse excelsior-like borings around tree base
  - Black swollen scars on trunk and limbs
  - Interior limbs and trunks honey-combed with galleries

Trunk Borer
- **Control**
  - Keep trees healthy and avoid stress.
  - Many different kinds and life cycles make control difficult.
  - Treat borers in holes if they are feeding.

Tussock Moth
- **Hosts**
  - Ornamental Blue Spruce, rarely a forest pest
- **Description**
  - One inch long gray to light brown caterpillar with tufts of brightly colored hairs along back
  - Two longer and more slender tufts originate behind head, single tuft from posterior of body

Tussock Moth
- **Damage**
  - Defoliation of tree
  - Most commonly concentrated at top of tree, occurring in early June
- **Control**
  - BT gives only fair results
  - acephate, cyfluthrin, bifenthrin, fluvalinate, and carbaryl applied with first new growth give good results

Webworm, Tent Caterpillars
- **Host**
  - Many species, especially poplar and willows
• Symptoms
  – Caterpillars groups in webs
defoliate branches
  – Tent caterpillars occur in the
spring
Webworm, Tent Caterpillars
• Control
  – Ignore unless severe outbreak
occurs.
  – Spray with B.T. (Dipel,
Thuricide), sevin, or acephate (Orthene).
Spray must penetrate webs.
  – Prune and destroy individual
clusters.