



Lake States Forest Health Watch



July 1, 2003

About this newsletter...

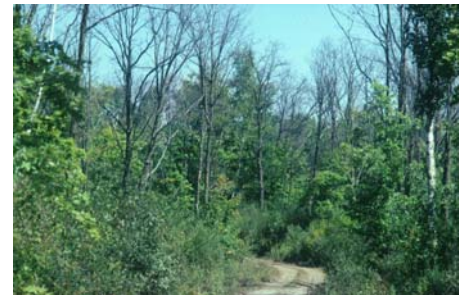
The Forest Health Protection unit of the Forest Service located in St. Paul produces this newsletter. Its intent is to keep Federal land managers in the Upper Great Lakes region abreast of forest health related issues such as insect and pathogen outbreaks. In order to do that, we need your assistance, please contact us with your observations.

What's been reported...

Twolined chestnut borer – Widespread oak mortality is being reported across northeastern Minnesota and northern Wisconsin. In many areas, significant numbers of dead oak are present. Most trees failed to leaf out this spring. It appears that the twolined chestnut borer, *Agrilus bilineatus*, has infested many of these trees. This beetle invades trees weakened by defoliation or drought. In this case, defoliation by forest tent caterpillar and some local drought impact appears to have ignited an intense *Agrilus* outbreak. Because tent caterpillar populations have crashed, oak mortality should decline. Further mortality, if it is going to occur, will become visible in mid-July through September. The leaves on any newly infested trees will turn brick red in late summer.

For more information see:

<http://www.na.fs.fed.us/spfo/pubs/fidls/chestnutborer/chestnutborer.htm>



Twolined chestnut borer killed oak trees, Chippewa NF 1991

Redheaded pine sawfly – The Michigan DNR has reported high populations of redheaded pine sawfly, *Neodiprion lecontei*, in young red and jack pine stands in the Upper Peninsula. This is a sawfly species that can be very destructive. Larvae eat both current years needles and older needles. High populations can completely defoliate trees. Pines generally die if they are completely defoliated in early summer. Larvae should be active from mid-June through mid-July. Virus outbreaks often collapse redheaded pine sawfly populations. Private landowners may wish to apply insecticides. For further information view: http://www.na.fs.fed.us/spfo/pubs/fidls/pine_sawfly/pinesawfly.htm



Redheaded pine sawfly larvae

Jack pine budworm – The Minnesota DNR has reported intense jack pine budworm activity along the northwestern portions of Minnesota's jack pine range. Surveys to date have not been completed in many areas so this outbreak may extend over a larger area. Infested trees turn reddish-brown in late June through early July. Budworm caterpillars clip needles. These needles collect in silk webbing and turn brown giving infested trees a characteristic "burnt look" that can be readily seen from a distance. Outbreaks generally collapse after 1-3 years. Expect about 5-10 percent tree mortality and 10 percent top-kill following a short outbreak. However, if outbreaks persist, extensive mortality can occur. For further information see:

http://www.na.fs.fed.us/spfo/pubs/howtos/ht_jack/ht_jack.htm



Budworm larvae

Larch casebearer – The Michigan DNR reports tamarack stands in the eastern end of the U.P. have been infested with larch casebearer, *Coleophora laricella*. This tiny caterpillar feeds inside the needles of larches causing trees to turn straw-colored. Tamarack tends to survive defoliation well. However, in the past several years we have had widespread tamarack mortality due to outbreaks of **eastern larch beetle**, *Dendroctonus simplex*. In some of these areas, the bark beetle outbreaks appear to be following casebearer defoliation events. For more information on casebearer visit: http://www.for.gov.bc.ca/hfp/forsite/pest_field_guide/larch_casebearer.htm For more information on larch beetle see: <http://www.na.fs.fed.us/spfo/pubs/fidls/elb/elb.htm>

Mid-summer insects, diseases and other stuff...

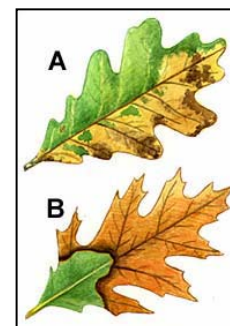
This time of year is a very active season for many insects and pathogens. In addition, the signs and symptoms of some of our early season species are becoming very evident by early July.

Several sawfly species can be problematic at this time of year. The most common include **larch sawfly**, *Pristiphora erichsonii*, **yellow-headed spruce sawfly**, *Pikonema alaskensis*, and **mountain-ash sawfly**, *Pristiphora geniculata*. Larch sawfly has been reported in the Medford area this summer. Watch for clumps of larvae feeding on tamarack in the next few weeks. In addition to the black-headed, gray-green larvae, watch for new shoots on tamarack that are curled. Close inspection should reveal a slit on one side of the shoot caused by an ovipositing (egg-laying) female. Sawflies get their name from the saw-like ovipositor that females use to cut slits into plant tissue where they embed eggs. Most sawflies oviposit into needles but larch sawfly uses the new shoots on larches. Yellow-headed spruce sawfly prefers small, open-grown white spruce. Infested spruce often end up with no needles remaining in the top of the tree. Mountain-ash sawfly is very common, they can rapidly defoliate individual branches and sometime entire mountain-ash trees. This species has a second generation that will cause further defoliation in late summer.

Oak wilt symptoms become evident at this time of year. Watch for rapidly wilting leaves that drop quickly from trees. Fallen red oak leaves tend to maintain a green base but have a brown outer portion (see figure at right). Oak wilt can be moved long-distances via firewood. Once established in a tree it can readily move to adjoining neighboring trees through root grafts and can create large pockets of dead oaks. Any oak wilt infested trees on National Forest land should be reported quickly.

For more information on oak wilt see:

http://www.na.fs.fed.us/spfo/pubs/howtos/ht_oakwilt/toc.htm



Jack pine budworm and **spruce budworm** defoliation should become visible at this time of year. Both of these budworms feed in a similar manner, clipping needles that collect in webbing on the trees. Infested trees will get a brownish or reddish tint. Rain and wind eventually wash the dead needles out of these trees.

Leaf drop and leaf feeding on ash trees...

We have received a number of reports of ash defoliation this spring. Most of this has been reported on yard and landscape trees and the majority appears to be a result of **anthracnose**, a common leaf disease of ash. Anthracnose on ash can cause leaves to drop in late spring, leaving the ground littered with leaves that often look scorched and curled. Affected trees generally recover and no direct control is recommended. This leaf disease is favored by cool, wet weather. In addition to anthracnose, defoliation has also been caused by localized outbreaks of **blackheaded ash sawfly**. This sawfly tends to prefer small open-grown trees. Groups of larvae can quickly eat the leaves off a small tree. Handpicking larvae is often sufficient on small trees. Another common pest this spring has been **woolly ash aphid**. This aphid tends to cause leaf curling and deformation of the growing tips. Lots of honeydew and sooty mold can be found on infested trees. **Ash plant bug** is perhaps the most common ash defoliator. Plant bugs causes stippling damage, small necrotic leaf spots, when they insert their mouthparts into leaf tissue. Ash plant bug is favored by drought and conditions over most areas of the Midwest have not been favorable for its development this summer.

For more on anthracnose see: http://www.na.fs.fed.us/spfo/pubs/fidls/anthracnose_east/fidl-ae.htm

For more on general ash pests see: <http://www.forestpests.org/ash/ashpests.html>



Blackheaded ash sawfly

Ash plant bug injury

Woolly ash aphid

Forest tent caterpillar and the friendly flies...

As mentioned in the May issue of this newsletter, large numbers of the “friendly fly” have been reported across many locations in the western U.P., northern Wisconsin and northern Minnesota. This large fly is a pupal parasite of the forest tent caterpillar. It does not bite but often lands on people, laundry, light colored cars and siding. Within a few weeks, populations should drop. With forest tent caterpillars on a rapid decline in most areas, the flies should be less numerous next spring and summer. For further information see:

<http://www.dnr.state.wi.us/org/land/forestry/Fh/intheNews/friendlyfliesfactsheet.pdf>



Quiz...

Test your knowledge. The photograph on the left is the base of a fire-charred red pine, though it could also be found on any of our pines. Small piles of white granular material are visible. Sometimes, globs of pitch that look like popcorn may also be present extending 2-3 feet up the stem. The center photo is a red pine shoot in mid-July to August. The end of the shoot has died, red needles are visible. A small hole is present below the bud, the shoot is hollowed out from the hole toward the bud. The picture on the right is not an insect! This is an invasive plant of woodlands. The leaves and stems emit the distinctive odor of onion or garlic when crushed (hint). First year plants consist of a cluster of 3 or 4 round, scallop edged leaves rising 2 to 4 inches in a rosette. Second-year plants generally produce white flowers on stems in May.

Quiz answers...

The fire-charred red pine has been attacked by red turpentine beetle, *Dendroctonus valens*. Turpentine beetles are bark beetles that attack stressed trees at the base, some attacks may extend upwards a few feet. These beetles further stress weakened trees making them very likely candidates for further attacks by other bark beetles and woodborers that can kill the tree. The center photo shows a shoot infested by the red pine shoot moth, *Dioryctria resinosa*. The caterpillar stage of this shoot moth feeds inside the developing shoot eventually killing the tunneled portion. The plant is garlic mustard, *Alliaria petiolata*. Garlic Mustard is a rapidly spreading woodland weed that is displacing native woodland wildflowers. It dominates the forest floor and can displace most native herbaceous species within ten years.

Upcoming forest health workshop...

The North Central Forest Pest Workshop (NCFPW) is an annual gathering of persons interested in forest health in the North Central portion of North America. It is attended by plant pathologists, entomologists, foresters, and other scientists and students. This year's workshop is scheduled for September 22-25 in Cloquet, Minnesota. Topic areas will include exotics, bark beetles in the Great Lakes region, and hardwood pests including oak wilt and two-lined chestnut borer. For more information visit: <http://www.na.fs.fed.us/spfo/ncfpw/index.htm>

Publications and resources...

Almost all of our publications are available via our home page found on the World Wide Web. This can be accessed at:

<http://www.na.fs.fed.us/spfo/>

Copies can be obtained by contacting our office at the address or phone number listed to the right.

Lakes State Forest Health Watch

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