



STATE OF MAINE
DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE
Insect And Disease Laboratory
168 State House Station-50 Hospital Street
AUGUSTA, MAINE
04333-0168

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

<http://www.maine.gov/doc/mfs/idmhome.htm>

Forest & Shade Tree - Insect & Disease Conditions for Maine July 20, 2012

The last several weeks have been dry in most of Maine. Think about watering more than just your vegetable garden during summer dry spells. Periods without rain, or with hit-or-miss showers can add stress to your important ornamental trees. Established trees can often handle such dry periods in the absence of other stressors, such as poor site or defoliation, but recent transplants (think several years), seedlings and trees under stress from other agents could use supplemental watering in dry periods.

As a rule of thumb, try to make sure your important ornamental trees receive an inch of water a week throughout the growing season. If you don't have a rain gauge, NOAA has some tools to help track precipitation patterns. You can look at past precipitation from several angles on their precipitation page (<http://water.weather.gov/precip/>).

Outward symptoms of damage from drought may not materialize for years to come. If you have valued ornamental trees, be sure to care for them now so they provide benefits into the future.

Emerald Ash Borer Reaches New England

The first detection of emerald ash borer in New England occurred in Connecticut earlier this month. The detection tool was a native, ground-nesting wasp affectionately called the smoky-winged beetle bandit, and known to the scientific community as *Cerceris fumipennis*. Although the detection is not good news for New England's ash trees, it is better to have emerald ash borer and know it, than to have emerald ash borer undetected in your forests or street trees. The invasive wood-boring beetle was also detected on purple prism traps in the same town where the wasp found them as well as on traps set in a neighboring town. The press release from The Connecticut Agricultural Experiment Station is included at the end of this month's report.



Colleen Teerling, Maine Forest Service Entomologist, has been a national leader in developing the smoky-winged beetle bandit as a detection tool. This news points up how the wasp is a valuable addition to surveying for the emerald ash borer. Kudos to Colleen and her collaborators.

Emerald ash borer has not yet been found in Maine. Maine's program to detect emerald ash borer includes three formal survey tools and the very important, but informal survey tool, the informed public. This year the majority of our emerald ash borer survey resources are focused on a large-scale purple prism trap survey. Volunteers and cooperators have carried the weight for the other two formal survey components: biosurveillance using *Cerceris fumipennis* and girdled trap trees.

MAINE FOREST SERVICE
DOUG DENICO, DIRECTOR

PHONE: (207) 287-2431 OR 1-800-367-0223
FAX: (207) 287-2432
TTY: (207) 287-2213
www.maineforestservice.gov/idmhome.htm

We help you make informed decisions about Maine's forests

More about these survey tools can be found on our Websites:
www.maineforestservice.gov/purpletraps.htm, www.maine.gov/cerceris and
www.maineforestservice.gov/EAB_trap_trees.htm.

In Maine, the purple traps were all set by early June. The mid-season lure-change and trap screening is under way. Emerald ash borer has not been detected in any of the traps serviced to-date.

Insects

***Birch Leafminer** (*Fenusa pusilla* or *Mesa nana*) – Birch trees in northern Maine are showing moderate to heavy damage from birch leafminers. The adults emerge from the soil in late May – probably earlier this year – and lay their eggs on the margins of the leaves. The larvae hatch and feed between the layers of the leaf. You can see them inside the leaf by holding it up to the light. Some leaves have multiple mines per leaf. Once the larvae have finished feeding they drop to the ground and pupate.



***Elongate hemlock scale** (*Fiorinia externa*) – Two new detections of elongate hemlock scale on planted trees were reported this month: one in Topsham, and the other in Falmouth. Both detections were on planted Fraser fir. The former was a well-established planting (eight to nine years); the latter was a new planting (two months). Fraser fir planting stock from south of Maine is at risk of arriving infested with this serious forest pest. As with firewood, a local supply is preferable to reduce the risk of spreading injurious forest insects.

This is a good time to scout for elongate hemlock scale. Now through a hard frost, males will be present. They are more conspicuous than females because they are covered with a white, waxy material. If you suspect you have found this insect, please report it to our office.

***Fall Webworm** (*Hyphantria cunea*) – Although this insect causes an unsightly mess, they do no lasting damage to the trees. Same drill as in past years: look for loose tents containing tiny, grayish, fuzzy caterpillars on alder, apple, ash, beech, birch, cherry, elm and oak. Clip and destroy these small developing tents to help reduce the problem locally.



In small trees, remove tents by hand, or cut out and destroy them. A forked stick or a stick with a nail in it may be inserted into larger webs and used to twist them from the tree. If pesticides are used, thoroughly spray the webs and caterpillars using *Bacillus thuringiensis* (*Bt*), a microbial product. Carbaryl, acephate or other chemical registered for fall webworm may also be used. Treat as soon as the small webs and caterpillars are seen, which should be any time now.

***Gypsy Moth** (*Lymantria dispar*) – Gypsy moth adults are flying, and egg masses are being deposited in infested areas of the state. We had a report of male moth flights on July 13 in Bangor. If you notice the characteristic buff-colored egg masses on or near important ornamental trees, take some time to scrape them off into a bucket of soapy water. This will help reduce impacts from feeding next year. We have seen some evidence of fungal disease reducing caterpillar populations in Manchester and had a similar report from Skowhegan. Although it has been dry the last couple of weeks, in some locations there was enough moisture earlier in the season to foster this important biological control.



The gypsy moth quarantine rules are slated for amendment because of an egg mass detection in Township 3 Range 7 WELS in northern Penobscot County; in order to increase efficiency and reduce confusion, we would like to make as infrequent changes to the quarantine as possible. Therefore, we would like to know if there are other gypsy moth detections north of the current quarantine area (www.maine.gov/doc/mfs/idmquar.htm). If you see gypsy moth egg masses, caterpillars or female moths north of the quarantine area, we would appreciate documentation (photograph, location, date).

***Hemlock Woolly Adelgid** (*Adelges tsugae*) – At least weekly calls from the towns of Kittery and York for advice on controlling hemlock woolly adelgid (HWA) serve as a reminder that this pest did very well over-winter. There is still a high risk of moving eggs and crawlers of adelgid.

If you carry a commercial pesticide applicator's license in category 3A and received a survey from the Board of Pesticides Control regarding this pest (among others), and you are familiar with its identification, biology and control, then please take the time to respond to the survey. It may seem like HWA is a long way from your territory, but our knowledge of the pest distribution can change very quickly. The survey can be found at <http://www.surveymonkey.com/s/MD6KHWL>.

Oak Skeletonizer (*Buccatrix ainliella*) – The windowpane-effect of oak skeletonizer feeding is becoming apparent in scattered locations around the state. Some folks are also noticing the tiny caterpillars dropping from oaks on strands of silk and the small, white, ribbed cocoons they construct for pupation (on hemlock in photo). This insect has two generations during the growing season; some locations may see significant defoliation from its feeding. More information can be found in this Field Guide page from Vermont Department of Forest Parks and Recreation: <http://www.forestpests.org/vermont/oakskeletonizer.html>.



Oak Twig Pruner (*Anelaphus parallelus* and *A. villosus*) – This time of year, a walk through your woods may reveal oak twigs and small branches scattered on the ground. If the end of the severed twig looks neatly cut, look for tell-tale signs of oak twig pruner: a smoothly chewed end with an oval hole packed with what looks like sawdust. Break the branch and it will be hollow; split the branch and you may find a larva in there all set to overwinter. If the dropped branches are an aesthetic problem, pick them up and destroy them. You'll reduce the beetle population in the process.

Saddled prominent/green striped mapleworm/variable oakleaf caterpillar complex (*Heterocampa guttivitta*, *Dryocampa rubicunda*, *Lochmaeus manteo* and others) – Last year, larvae and light defoliation from this complex of insects was noted in Franklin County. The larvae will be showing up in the next few weeks and feeding on the leaves of hardwood trees into September.



Saddled prominent caterpillars are green, smooth, with a reddish 'saddle' across their mid-section and a pointed rear end. Green-striped mapleworms are green with white stripes. Variable oakleaf caterpillars have large heads with green, white and reddish markings.

The saddled prominent complex of hardwood defoliators are native species of caterpillars that tend to occur together. Outbreaks occur every 10 years or so, and the last one in Maine was in 2005-06 in parts of Cumberland County. This complex usually increases for two to three years and then subsides. This is a late season defoliator and generally causes little damage as long as the outbreak is not long or too severe.

Spruce Budworm (*Choristoneura fumiferana*) – Not here in noticeable numbers YET. Budworm is not a problem this year in Maine, but it is on the horizon in the not too distant future.

Please send in reports (as well as photos and/or samples if possible) of any fir or spruce in northern Maine that have foliage webbed together and chewed. The moths are flying, so report any unusual amounts of small brown moths. Catch and send some in if possible. We do have traps out, but they are not everywhere, and any additional eyes in the woods are appreciated.

Yellowheaded Spruce Sawfly (*Pikonema alaskensis*) – The striped larvae of the yellowheaded spruce sawfly are finishing up feeding now. This insect starts feeding on new foliage in mid to late June, but most people do not notice them until mid July when the damage to the trees is almost finished. Although the larvae are out eating needles for four to six weeks, most of the feeding is done in the last week and seems to occur over night. The larvae prefer to feed at the top of the trees and then move down staying on new foliage if possible. The sawflies will return to the same trees year after year. So if you see damage this year, put it on your calendar to go check the trees next year at the end of June. These are native insects, and there are a lot of predators and parasites that feed on them. The natural controls will eventually reduce the sawfly population but not always as quickly as people would like to see. Nevertheless, if you are just now noticing the sawfly damage, WAIT until next year before treating and then treat in late June or early July when the larvae are small.

Diseases and Injuries

Ash Leaf Rust (*Puccinia sparganioides*) – Localized areas in southern and coastal counties in Maine have seen a relatively high incidence of ash leaf rust this year. Many ashes in Kittery, York, and other communities have been completely defoliated. While the rust rarely kills trees, repeated heavy defoliations over several years can result in branch and stem dieback. The pathogen alternates between marsh grasses in the genus *Spartina*, and ash, which accounts for its largely coastal distribution.

Fir Broom Rust (*Melampsorella caryophyllacearum*) – This common rust on balsam firs first appears as yellowed needles on abnormally dense clusters of twigs and branches called “brooms.” The development of the brooms is initiated from infection by the fungus, which then produces the yellow spores on needles during late May and through June. The primary hosts for the rust are species of chickweeds, with balsam fir serving as the alternate host. Control is most easily accomplished by simply pruning out the brooms. While tree growth may be affected, the disease kills trees only in rare circumstances, where multiple brooms have been allowed to develop over many years.

Fir Tip Blight (*Delphinella balsameae*) – Fir tip blight has again appeared in some Christmas tree plantations in Aroostook County, and also in Cape Elizabeth (Cumberland County). Current-year shoots become infected, turn a reddish brown, and curl by mid-to-late June (photo right). The symptoms have an appearance similar to that of frost damage on young shoots. On light- to-moderately affected trees, the disease can be managed by shearing.



Hemlock Needle Drop – An unusual occurrence of needle drop has been observed and reported throughout southern and north-central Maine over the past few weeks. The needles, which in large part appear



green and healthy, have been shed in numbers high enough so as to cover the ground and leaves of understory vegetation (photo left). The phenomenon has been observed in Bridgton (Cumberland County), Wells and Saco (York County), Batchelder Grant Township and Brownfield (Oxford County), Oqiton (Hancock County), and Island Falls (Aroostook County). Both current-year needles and older needles may be affected, with the proportion of each varying from site to site. The cause of the needle loss is unknown, but pathogens or insects do not appear to be involved. Physiological changes due to an unusual combination of weather conditions may be responsible,

but no strong associations have yet been made. It is not expected the needle loss will continue much longer this season, or will result in any serious or long-term damage.

Hemlock Tip Blight (*Sirococcus tsugae*) – A region-wide survey of hemlock tip blight currently is being conducted by the USDA Forest Service in association with other cooperating states (photo right). In Maine, the survey is about half completed. Hemlocks in 11 plots have been inspected for disease incidence to date. Hemlock in the study plots in Batchelder Grant Township and Brownfield (Oxford County), Bradford (Penobscot County), Cumberland and Falmouth (Cumberland County), Island Falls (Aroostook County), Oqiton Township (Hancock County), Wells, and York (York County), have been found to be diseased. No disease was observed on hemlock from the Benton (Kennebec County) plot. Data collection will continue through this summer and next, when data from Maine will be combined with that from the other New England states and New York.



Oak Anthracnose (*Apiognomonia quercina*) – Anthracnose diseases of many hardwood species were prevalent earlier in the season. Oak anthracnose apparently has been slower to diminish since the excessive rainfall has slackened since mid-June. The disease was most recently reported on red oak from Blue Hill (Hancock County).

Red Pine Needle Rust (*Coleosporium asterum*) – Two records of red pine needle rust were noted during June, one from Houlton (Aroostook County), and one from Northeast Harbor (Hancock County). Except for heavy infections on seedlings, the disease will not result in any significant damage.

Shoot Blight of Aspens and Poplars (*Venturia populina*) – In late June, samples of *Venturia* shoot blight were noted from Vassalboro (Kennebec County). The pathogen infects young leaves and shoots during May and early June. Infected shoots take on a dark, blackened appearance and commonly bend into a crook at the twig terminal. Multiple infections on the same tree can slow tree growth, especially of young, regenerating sprouts. The pathogen does not infect woody tissue.

White Pine Needle Diseases (*Mycosphaerella dearnessii*, *Canavirgella banfieldii*, *Bifusella linearis*) – There has been noticeably less early needle loss of white pines this season than over the past several years. While the needle pathogens (particularly *M. dearnessii* and *C. banfieldii*) may be found statewide, the heaviest infections still occur on white pines in the southern and western regions of the state. This year, moderate defoliation has been observed or reported from New Limerick (Aroostook County), Brunswick (Cumberland County), Wells (York County), Lovell and Bethel (Oxford County), and Industry (Franklin County). As part of a multi-state effort to monitor the occurrence and severity of the needle diseases, two study plots have been established in Maine, in cooperation with the USDA Forest Service. Trees rated last year for mean chlorosis (yellowing appearance) and for average defoliation showed marked improvement this year. For more information on the needle diseases, see the following on-line pest alert: http://na.fs.fed.us/pubs/palerts/white_pine/eastern_white_pine.pdf.

Conditions Report No. 4, 2012

On-line: www.maineforestservice.gov/ConditionsReportsIndex.htm

Maine Forest Service

Forest Health and Monitoring

Contributors: Charlene Donahue, Allison Kanoti, William Ostrofsky, Colleen Teerling

All photos Maine Forest Service except Page 1: *Cerceris fumipennis* with emerald ash borer prey, Philip Careless.



Founded 1875

The Connecticut Agricultural Experiment Station

123 HUNTINGTON STREET, P.O. BOX 1106, NEW HAVEN, CONNECTICUT 06504

*Putting Science to Work for Society
Protecting Agriculture, Public Health, and the Environment*

FOR IMMEDIATE RELEASE

Friday, July 20, 2012

MEDIA CONTACTS:

Dr. Louis A. Magnarelli, Ph.D., Director
The Connecticut Agricultural Experiment Station
123 Huntington Street (zip 06511)
P.O. Box 1106
New Haven, CT 06504
Phone: (203) 974-8440

Dr. Kirby C. Stafford III, Ph.D., Vice-Director, Chief Scientist/State Entomologist
The Connecticut Agricultural Experiment Station
123 Huntington Street (zip 06511)
P.O. Box 1106
New Haven, CT 06504
Phone: (203) 974-8485

Emerald Ash Borer Found in Prospect and Naugatuck, Connecticut

New Haven, CT – The Connecticut Agricultural Experiment Station (CAES) and the Department of Energy and Environmental Protection (DEEP) today announced that the emerald ash borer (*Agrilus planipennis*) was detected in Prospect, CT on July 16, 2012 by staff members at CAES. The identification has been confirmed by federal regulatory officials in the USDA Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA APHIS-PPQ). This is the first record of this pest in Connecticut, which is added to 15 other states where infestations have been detected. A new probable site of infestation is located in the Naugatuck State Forest. The beetle identification is unconfirmed. The emerald ash borer is responsible for the death and decline of tens of millions of ash trees from the mid-west to New York State and south to Tennessee. Ash makes up about 4% to 15% of Connecticut's forests and is a common urban tree.

“The detection of the emerald ash borer (EAB) in Prospect and probably in Naugatuck reaffirms that statewide surveys for this pest were necessary,” said Louis A. Magnarelli, director of CAES. “We expected to find the beetle in areas of Connecticut across from infestations in Dutchess County, New York; however, the EAB has great flight potential and can travel in infested wood moved by people. This pest attacks all species of ash trees. Our immediate goals

are to determine how extensive the Connecticut infestation is, notify residents in the Prospect and Naugatuck area, and implement strategies to slow the spread of the insect.”

The insect specimens were recovered in Prospect from a ground-nesting, native wasp (*Cerceris fumipennis*), which hunts beetles in the family *Buprestidae*, including the emerald ash borer. The developing wasp larvae feed on the beetles provided by the adult wasp. The wasp provides a highly efficient and effective “bio-surveillance” survey tool and does not sting people or pets. This work was supported by the US Forest Service. In addition, 541 purple prism detection traps, containing a special chemical lure, have been set across the state in all eight counties by The University of Connecticut Cooperative Extension System via an agreement with the USDA APHIS PPQ. Three additional EAB have been captured in a trap located in Prospect, while other beetles were captured in a trap in Naugatuck.

“This is a disturbing discovery and one that has the potential for great environmental harm in the state,” said DEEP Commissioner Daniel C. Esty. “Connecticut has more than 22 million ash trees. The presence of EAB here could have a devastating effect on the beauty of our forests, state and local parks and neighborhoods, as well as the state’s wood product industries. Now that EAB has been detected here, it is more important than ever to limit its spread. It is imperative that residents and visitors throughout the state not move firewood. The movement of firewood that contains the presence of EAB is the quickest way to rapidly spread the insect. We will continue to work closely with the Connecticut Agricultural Experiment Station and other state and local agencies to do everything in our power to minimize the presence of EAB in Connecticut.”

The EAB is a small and destructive beetle, metallic green in color, and approximately 1/2 inch long and 1/8 inch wide. Adults emerge from the bark of infested trees leaving a small “D”-shaped exit hole roughly 1/8 inch in diameter. This insect is native to Asia and was first discovered in the Detroit, MI and Windsor, Ontario regions of North America in 2002. It has since spread through the movement of firewood, solid-wood packing materials, infested ash trees, and by natural flight dispersal.

It is unknown how the EAB entered Prospect or Naugatuck. Movement of infested firewood is a high risk activity that can spread the beetle over long distances. Prior to the pest’s discovery in Prospect, the closest known infestation to Connecticut is in eastern New York near the Hudson River.

The emerald ash borer is a regulated plant pest under federal (7 CFR 301.53) and state (CT Gen. Statute Sec. 22-84-5d, e, and f) regulations. For more information about the EAB, please visit the following website: www.emeraldashborer.info.

There will be a press conference at 1:15 PM at the Prospect Town Hall, 36 Center Street. Representatives of CAES will be attending the press conference. Materials will be on display. Officials of USDA APHIS-PPQ, DEEP, and the CT Department of Agriculture are expected to be present as well.

###