



Insectary Notes

March/April 2008

From the Editor

Jacqui Gordon

A couple of weeks ago, I thought “what are we going to put in the newsletter?” . . . And then I realized that we have enough to fill two issues! Gypsy moth are hatching, black flies are flying, balsam gall midge and white pine weevil are out and about, and ticks are searching for lunch. Combine that with preparations for our yearly pest detection officer meeting that was held in April and the looming flight of the brown spruce longhorn beetle, the Insectary is buzzing with activity.

Response to our format change has been good. I'm glad to hear that it is easier to read.

Hope everyone takes the time to enjoy the spring and summer while we have it!

Til next time,

Jacqui

Jacqui Gordon
Editor

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Say What and Quotes . . .

I told the doctor I broke my leg in two places. He told me to quit going to those places. - Henny Youngman

The greatest pleasure in life is doing what people say you cannot do. - Unk.

If there is a possibility of several things going wrong, the one that will do the most damage will go wrong first. - Unk.

A pun is the lowest form of humor -- when you don't think of it first. - Oscar Levant

I refuse to answer that question on the grounds that I don't know the answer. - Douglas Adams

Afterism (n) - A concise, clever statement you don't think of until too late. - John Alexander Thom

Insectary Notes

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Insect Focus

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Balsam Gall Midge - *Paradiplosis tumifex* (Gagne)

Keith Moore

Swallows are flying High on April 20th!

Anyone who knows me, knows that every chance I get, I'm out on the land this time of year waiting for signs of spring. First redwing blackbird, first robin, first spring peeper, first snipe or laughing sally, and the bittern down at the beaver dam, making its ker-plunk sounds like an old fashion water pump . . . One of the hazards of growing up on an old farm! It's a glorious time of year and I'm out there trying to take it all in.

It's also the time for the bugs to start waking up. So far this month there has been an interest in white pine weevil, balsam gall midge, and tussock moth egg masses.

Reports of some heavy amounts of galling on Christmas tree lots from Antigonish to Sheet Harbor. This is probably a good time to reprint the life cycle of the balsam gall midge. The gall midge and its parasite overwinter in the duff layer under the tree. When the buds on the tree are just about to unfurl or loosen, the gall midge starts to fly and lay eggs on the needles. The trick is to figure out when the peak

flight time has been reached so that a spray will take out most of them. To do this, monitor the population using yellow cards covered with sticky tanglefoot. This way you'll know when the numbers have peaked. The problem is to determine whether you have a heavy population of gall midge or parasite (examining wing venation under a microscope is one way to tell them apart). You don't want to take out the parasite and leave only the gall midge because you will extend the gall midge population explosion for a few years. I believe this has happened in a few instances. This you do not want. Again last fall when I examined galls I only found the good parasite which makes me think that the parasite has already done its job and the gall midge will return to background levels in this growing season. As someone said, "Could you put that in writing and sign it?", I could, but we're talking insects here and a day old dragon fly has more ideas about what's going on out there than I do. Enjoy the spring and all it has to offer.

Balsam Gall Midge - Biology

As their name suggests, balsam gall midges are tiny flies that cause swellings on balsam fir needles. Although they can cause trees to be unsuitable for the Christmas tree market and in severe infestations can cause a reduction in growth, they do not cause tree mortality.

Hosts

Balsam and Fraser Firs

Life Cycle

The adult gall midge is a small delicate orange-coloured fly. The adults emerge from pupae in early spring. Eggs are deposited between the needles of partially opened buds. The larvae travel to the base of the needles and through chemical or mechanical means cause the needle to envelop them and form the gall. The larvae feed within this gall during the summer and as autumn approaches, drop from the galls and crawl into the soil. The infected needles die and eventually drop to the ground. The insect overwinters as larva within a silken cocoon and pupates in the spring.

Damage Symptoms

The gall of the balsam gall midge is the only damage attributed to this pest. This insect rarely causes permanent damage and if infested trees are not to be harvested for another 3-4 years, they may outgrow the damage.

Control

Control is often very difficult due to the short period that the larvae are exposed. Once the larvae are enveloped by the needles within the gall, it is futile to spray it. The key control agent is a predator midge which normally causes a population collapse for the balsam gall midge. Growers can contact their Christmas Tree Specialist for details on control options.

Provincial Entomologist's Overview What's the Buzz?

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In Nova Scotia the arrival of Spring brings with it many things. Some of them welcome, think warm temperatures. Others, such as hordes of tiny black flies that swarm about your head and neck, disrupting any and all outdoor activities; not so welcome.

Black flies are small, approximately 1-3 mm long, bloodsucking insects with a humped back and heavy body. Seventeen species of black flies occur in Nova Scotia. They're most common during the spring and early summer months, early May until mid-June.

Black flies require fresh, running water in order to complete their development. Eggs are deposited on objects in or near the water or scattered over the water's surface. Upon hatching, larvae attach themselves to submerged objects where they pupate. New adults emerge through the water's surface and fly away. Adults mate near the breeding site and females, who require a blood meal to produce their eggs, set off on their search for blood.

Cues such as moisture and carbon dioxide, produced during respiration, help females hone in on their victims. Upon landing, she plunges serrated mouthparts into the exposed skin and a small hole is snipped. She then laps up the blood seeping from the wound, swelling to many times her original size. While biting, saliva is also injected into the wound.

This saliva prevents blood from clotting and triggers the allergic reaction that makes the bites itch. Male black flies don't bite, instead they feed on pollen and nectar.

Trying to control black fly adults isn't usually practical. However, some relief may be obtained by avoiding outdoor activities during periods of peak black fly activity wearing suitable clothing, or using repellents. Black flies only feed during the day and rarely bite indoors or late at night. Light-coloured clothing is less attractive than dark. Keeping shirt fronts and sleeves fastened and tucking pant legs into socks or boots will help keep flies out. Head nets made of fine-mesh material can also be used to protect the head and neck. Repellents can offer some temporary relief from black fly harassment. Currently, the most effective ingredient is DEET. Be very careful when applying repellent to children and don't apply it to their hands which can easily end up in their mouths or eyes. Remember to always read the instructions on the container before use.

Gina

Gina Penny
Provincial Entomologist

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Bits and Pieces

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Gypsy Moth Hatch

Jacqui Gordon

In short . . . it should be happening now. The gypsy moth egg masses usually hatch in around mid-May close to the time that the serviceberry blooms.

Black Flies

Jacqui Gordon

I can report that on 3 May in Lochiel Lake and on 7 May in Beavercreek, the black flies were flying but not biting. The non-biting males emerge first and make a nuisance of themselves and are soon followed by the blood-thirsty females.

Monitor Watch

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Ticks

Jeff Ogden

The time for ticks is here. I've been receiving many dog ticks and blacklegged ticks for identification. Although they are a nuisance, in Nova Scotia, dog ticks (also called wood ticks) do not transmit disease.

When a blacklegged tick arrives at our lab, it is sent to Public Health Agency of Canada in Winnipeg for testing. The ticks are tested for: the bacterium that causes Lyme Disease and the bacterium that causes Human Granulocytic Anaplasmosis (HGA).

So, don't cancel your outdoor plans, but take the following precautions, especially in areas where blacklegged ticks and Lyme disease are known to be established:

- wear light-coloured long-sleeved shirts and pants (so ticks are more visible), light-coloured socks and enclosed shoes while working or playing outside or hiking in the woods;
- pull socks up over pant legs and tuck in shirts;
- spray clothing and exposed skin with an insect repellent containing DEET;
- check clothing and exposed skin for ticks after working or playing outside or in the woods and remove any ticks attached to the skin;
- DEET should not be applied to pets, however, pets should be checked for ticks regularly in areas where blacklegged ticks and Lyme disease are known to be established;
- keep grass well cut to minimize suitable habitat for ticks on your property.

Tick Checks

Tick checks are important. Blacklegged ticks can only transmit the bacterial infection after they have been attached to the skin for about 24 hours. Removing ticks as soon as possible can prevent or reduce the risk of infection.

Where to Take the Ticks

And remember if you come across a tick on yourself or on your pet, please send it to the Museum of Natural History in Halifax, or drop it off at a local NS Department of Natural Resources office.

For more information on Lyme Disease go to the NS Department of Health website:

<http://www.gov.ns.ca/hpp/ocmoh/lyme.htm>

Although the risk of contracting Lyme Disease in Nova Scotia is low, it's important to take appropriate precautions, particularly along the South Shore, in the Lunenburg area, and the area around Admiral's Cove Park in Bedford. These are areas where we know there are ticks established which carry the bacterium that causes Lyme disease.

Submitting Tick Samples

Place the tick in an empty pill bottle and include the following information with the tick . . .

- Contact Information (your name, telephone number or email address) so we can report back to you on the outcomes
- Date you found the tick
- Geographical location (although it's nice to know that the tick was found under Fido's left ear, it's more important for us to know what town or area it was found in.)
- If the person/animal has travelled 2 weeks prior to the discovery of the tick, please provide the localities visited (especially if you are unsure of where the tick may have been acquired).

More information on the Blacklegged Tick . . .

<http://www.gov.ns.ca/natr/protection/ipm/Sheets/lpmTICK.htm>



Monitor Watch (Contd.)

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White Pine Weevil

Gina Penny

The white pine weevil, *Pissodes strobi*, also known as the Engelmann spruce weevil and the Sitka spruce weevil, is the most damaging and economically important native insect pest of spruces and pines in North America. Its range spans the continent, following the natural distribution of white pine, Sitka and Engelmann spruce. In eastern Canada, the weevil attacks white, red, jack, Scots and Mugho pines as well as white, red, black, Norway and Colorado blue spruces.



Figure 1. Leader with shepherd's crook.

Symptoms and Damage

In the spring, the first sign of weevil attack is the presence of resin droplets, oozing from adult feeding punctures and egg-laying sites along the tree's leader. Larval feeding results in the majority of damage, causing the leader to take on a drooping, wilted appearance resembling a "shepherd's crook" (Figure 1). Eventually the leader will die.

Adult weevils emerge by chewing small, round holes through the bark (Figure 2).



Figure 2. Adult exit holes in stem.

Management

Mechanical: Pruning can be effective at reducing weevil populations. Prune infested leaders and branches while the larvae are still active under the bark and before new adults emerge. Cut back infested leaders at the level of the uppermost whorl of unaffected branches. Infested leaders should be destroyed or removed from the site.

Cultural: Adult weevils prefer open-growing trees, 1.5 - 8 m tall, in sunny locations. Grow evergreen trees under a canopy of 50% shade, making the leader less attractive to the weevil. Close spacing of pine trees in a plantation encourages competition, forcing rapid height growth and natural pruning of weevil-attacked trees.

Chemical: Spring insecticide sprays are most commonly used. Watch for resin flow coming from leaders in the early spring indicating that adults are feeding and apply sprays immediately. Systemic insecticides are often more effective because they kill any larvae which may be inside the leader.

CAUTION: Read and follow the instructions on the label when using any control agent. Proper application and use of recommended personal protective equipment are essential for the safe use and effectiveness of any pesticide.

DISCLAIMER: Control options are suggestions only. Actions taken for pest control are the sole responsibility of the applicator in full compliance with any Federal, Provincial or Municipal Acts, Regulations or Bylaws.

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More Bits and Pieces

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Eastern Larch Beetle

(*Dendroctonus simplex* LeConte)

Jacqui Gordon

This little creature has been causing some mortality in larch in the eastern region. It's a bark beetle in the same genus as the spruce beetle.

The symptoms of an attack are similar to the symptoms that occur in a spruce beetle attack. Small entrance holes (2 mm) and some reddish brown boring dust are the first signs. As the tree tries to "pitch out" the attacking beetle, resin will flow from

the holes or accumulate in pitch nodules. From a distance, the most obvious evidence of current infestation is yellowing foliage that develops by late July or early August. Most trees begin to fade from the bottom, and it's common to see needles in the lower portion of the crown turning yellow, brown, and then falling off while the upper portion of the tree is still green. Not all infested trees will fade before the appearance of the normal fall colour change. Infested trees generally fail to leaf out during the following spring.

For more information on the eastern larch beetle . . .

<http://www.na.fs.fed.us/Spfo/pubs/fidls/elb/elb.htm>

How many dogs does it take to change a lightbulb?

Golden Retriever: The sun is shining, the day is young, we've got our whole lives ahead of us, and you're inside worrying about a stupid burned out bulb?

Lab: Oh, me, me!!!! Pleeeeeeeeeeze let me change the light bulb! Can I? Can I? Huh? Huh? Huh? Can I? Pleeeeeeeeeeze, please, please, please!

Rottweiler: Make me.

Old English Sheep Dog: Light bulb? I'm sorry, but I don't see a light bulb!

Jack Russell Terrier: I'll just pop it in while I'm bouncing off the walls and furniture.

Border Collie: Just one. And then I'll replace any wiring that's not up to code.

Poodle: I'll just blow in the Border Collie's ear and he'll do it. By the time he finishes rewiring the house, my nails will be dry.

How many cats does it take to change a lightbulb?

Cats do not change light bulbs. People change light bulbs. So, the real question is:

"How long will it be before I can expect some light, some dinner, and a massage?"

All of which proves, once again, that while dogs have masters, cats have staff!

Most Unwanted List

White Pine Weevil
Black Flies
Balsam Gall Midge
Gypsy Moth (hatching)
Eastern Larch Beetle

Dishonourable Mention

Dog Ticks (Wood Ticks)
Blacklegged Ticks