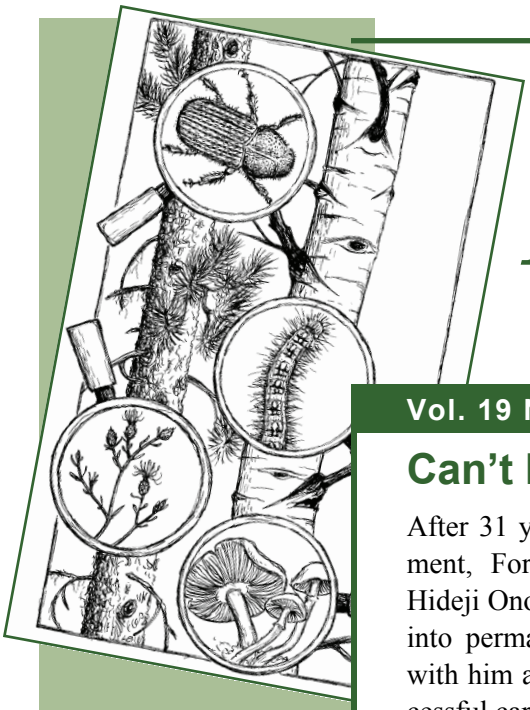


Bugs & Diseases

Vol. 19 No. 1 April 2008

Alberta's eye on forest health

Issue highlights:

Can't beat 31 years of experience

After 31 years with the Alberta Government, Forest Health Section Manager, Hideji Ono, is retiring. Before he slipped into permanent vacation mode, I talked with him about his personal life and successful career.

Hideji was born in Utsunomiya, Japan, about 100 km north of Tokyo, only 40 km from the beautiful Nikko National Park and world heritage site. Although he wouldn't directly reveal his age, he noted that he is old enough to receive Canada pension in just over a year. You can do the math.

"It was in high school when I knew I wanted to be an entomologist."

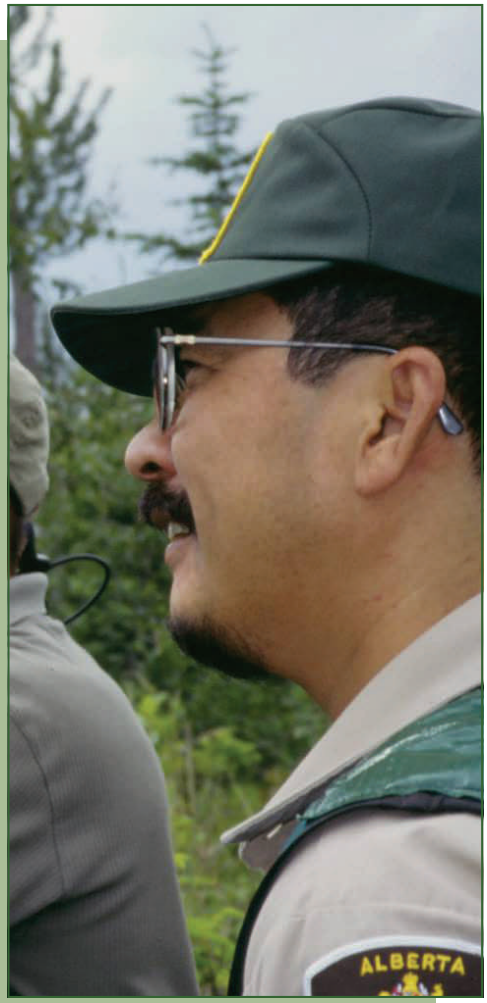
Mike: Was forest pest management always an interest of yours?

Hideji: I started collecting insects at the age of 10, but I never thought about working with insects then. It was in high school when I knew I wanted to be an entomologist.

Mike: Tell me a bit about your education background?

Hideji: I obtained a Bachelor of Science in Forestry from Tokyo University of Agriculture, and a Bachelor of Science in Agriculture specialization in Entomology from the U of A.

Mike: I recall you mentioning that you started with the Alberta Forest Service in 1988. What type of work had you done up to that point?



Hideji Ono, Forest Health Manager 1988-2008 (retired).

Alberta Sustainable Resource Development

Hideji: In Japan, I started as an outdoor education instructor at a National Park. After immigrating to Canada in 1972, I worked at the provincial tree nursery in Oliver while attending the U of A. Following that, I moved to Vulcan and worked for Provincial Parks as a Regional Resource Management Coordinator for 10 years. It was a great job.

Mike: Now let's hear about how you got involved with the Alberta Forest Service.

Hideji: Like you have already mentioned, I started with Forest Service in 1988. John Benson, Director of the Forest Protection Division, hired me as the Manager of the Insect and Disease Branch. At that point, it was a one man operation. I was the branch until others soon joined the team. I later renamed the branch "Forest Health" to focus more on health rather than problems. In 2000, our branch was transferred to the forest management program. I took advantage of the change by working to incorporate forest health objectives into the forest management processes.

"I started with the Forest Service in 1988... At that point, it was a one man operation."

Mike: What are your favorite and least favorite forest pests?

Hideji: My favorite is mountain pine beetle because it got me to the best part of the province… the Rockies. My least favorite is probably root disease; I don't see it, I don't have a cure for it, and most of all I'm not a pathologist!

Mike: What are your thoughts on the future of forest health in Alberta?

Hideji: Well, this is a serious question. Let me check my crystal ball first... I think that Alberta will face significant challenges in maintaining healthy forests in the next few decades. Drought will be a common event, and stressed forests are vulnerable to many forest pests. I think the next mountain pine beetle outbreak will be made in Alberta and it will expand its range; spruce budworm outbreaks will begin to kill trees in a shorter time frame than seven to eight years; and we will have more problems with foliar diseases and invasive species. But it won't be the end of the world. There will always be opportunities to utilize our forests more effectively. Alberta is known to be an innovator and leader in applied science. There will be challenges, but we will find the way.

Mike: Looks like we may have our work cut out for us. On a lighter note, can you tell me what you have planned for the future?

Hideji: I have a lot of hobbies like fishing, camping, golfing, photography, aikido, and wood working. I am also writing a science fiction novel. And, of course, I want to travel. I'm interested in visiting as many world heritage sites as I can. I decided that in retirement I will not deliberately kill any more insects except for those stuck on the grill of my car.

Mike: Thanks for taking the time to answer some questions for the newsletter. Good luck.

Hideji: My pleasure. It has been 18 years since I published the first issue of the *Bugs and Diseases*. And thanks to continued efforts, this is the longest running newsletters of SRD. Can I also add that I am very proud of the forest health team, and what we have achieved over the last 20 years? I think I have been very lucky to have had such a great career and great people to work with. I will miss it.

Hideji Ono &

Mike Undershultz

Do you have what it takes to be a Forest Health Officer?

It's not all helicopter rides, media interviews and great meeting locations. Here is a small test to see if you make the cut:

1. What is the main host of the forest tent caterpillar?
2. A female mountain pine beetle makes a distinct shaped gallery. What is that shape?
3. What is the main host of the mountain pine beetle?
4. What would be the easiest way to tell the difference between ox-eye daisy and scentless chamomile?
5. This condition occurs on conifers from sudden changes in air temperatures and humidity during the winter, and usually occurs in the foothills and mountains. What is this condition?
6. I can be a log yard's worst nightmare. I usually start to appear on the first warm days of June looking for a tasty fresh log to lay my eggs. My offspring will turn your logs into Swiss cheese, and in a couple of years will be a big, black beetle with long antennae with one distinct marking. What am I?
7. How many larval stages are there in a spruce budworm life-cycle?
8. As a caterpillar, I'm dark green with a black head. I like to chew on aspen leaves, clumping them together with silk. As a moth, I look a lot like a spruce budworm. What am I?
9. Throughout the 1990s, SRD used one main product in its aerial spray programs. What was that product? What is the full name? (Hint: 3 words).
10. I am a much too common perennial plant with hollow stems, extensive deep root systems, leaves with sharp spines and usually pink or purple flowers. What am I?
11. What life stage does the Bruce spanworm overwinter in?
12. As an adult, I'm a small dark brown or black insect that overwinters in the duff beneath my host. I like to hang out with my brothers and sisters when feeding downwards. What am I?
13. Armillaria root disease can spread by dark black shoestring-like fungal growths. What are they called?
14. Female forest tent caterpillar moths cover their eggs with a certain substance. What is the name?
15. What is the genus and species name of lodgepole pine dwarf mistletoe?

Hint: question #6.

(Answers on page 6)

If you scored:

- 0 - 6 points – Don't quit your day job!
- 7 - 12 points – Not too bad, just need a bit more studying.
- 13 - 16 points – Great work! Send us your resume; we might have a job for you.

Mike Maximchuk

Cold mid-winter temperatures and forest tent caterpillar

This past winter I was asked several times (especially by people in Ft. McMurray) if the cold in the Northeast would have any effect on forest tent caterpillar (FTC) populations.

It is generally well known that cold mid-winter temperatures are a critical natural control factor for mountain pine beetle population dynamics. However, this may not be the case with other insects. Cold temperatures, especially those associated with late spring frosts, are important for controlling FTC epidemics (especially in more northerly areas).

Forest Health Officer, Tom Hutchison, sampling forest tent caterpillar egg-masses.

Until recently, I could not see mid-winter cold periods affecting FTC populations. I say "until recently" because last February my attention was drawn to a 2003 article in *Environmental Entomology* by Dr. Barry Cooke (Canadian Forest Service) and Dr. Jens Roland (University of Alberta). According to this study, when FTC populations are high, they may be affected by cold mid-winter temperatures. In epidemic situations, FTC are forced out of the canopy and onto the shrub layer in search of available food and branches to lay egg-masses on. Areas closer to ground level are subject to cold air pooling and other factors that make conditions there harsher than in the canopy.

"When forest tent caterpillar populations are high, they may be affected by cold mid-winter temperatures."

Additionally, earlier work (by Dr. John Spence) indicates that that FTC feeding on non-host species (such as willow, rose, dogwood, etc.) produce offspring that are less cold hardy than those feeding on aspen.

Finally, increased mortality of shrub layer FTC can tip the balance in favor of the moth's other natural enemies, collapsing the population in the canopy as well.

All in all, after reading this journal article, I was hopeful that the extremely cold weather we had this past winter would have had an effect on FTC populations, especially around Ft. McMurray.

This past February-March we collected egg mass samples and sent them to Dr. Cooke to hatch out and see what kind of mortality to expect. Preliminary results indicate that the winter cold had very little effect on mortality, producing a very good hatch in both shrub and canopy layer samples. I should emphasize that a small sample set was used in this study. Therefore, the real story may be different. But based on the results so far, coupled with the egg mass surveys conducted last fall, expect FTC populations to remain very high over much of the northeast. Brace yourself in Ft McMurray, the epidemic isn't over yet. Hope for a late spring frost, or expect a lot of caterpillars this spring.

"… expect FTC populations to remain very high over much of the northeast."

Tom Hutchison

Northeast weed workshop announcement

Spring is here and it's time to start thinking once again about invasive plants.

The annual northeast weed co-op workshop is being held on May 23, 10:00 a.m. – 2:30 p.m., at the Multiplex in Athabasca.

This workshop is geared towards field staff, with information being presented on invasive plant identification, biology and control methods amongst other related topics. We will also include interactive (hands-on) activities. And back by popular demand, the game show "Who Wants to Be a Millionaire – Invasive Plants Edition."

In 2007, the College of Alberta Professional Foresters granted 4.5 CU at level I; and 3 pesticide applicator credits were given for pest management in both the forestry and industrial strands to appropriate attendees. Similar accreditation will be requested for this year as well.

If you wish to attend, please email me directly: martin.robillard@gov.ab.ca.

Marty Robillard

Common tansy survey along the Athabasca River in northeast Alberta.

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Bugs & Diseases informs forestry-related personnel about current forest health issues. Articles are welcome.

Quiz answers

1. Trembling aspen
2. J-shaped
3. Lodgepole pine
4. Scentless chamomile has finely-divided leaves, while ox-eye daisy leaves are broad
5. Red belt
6. Whitespotted sawyer beetle
7. Six
8. Large aspen tortrix
9. B.t.k. (Full name for an extra point - *Bacillus thuringiensis* kurstaki)
10. Canada thistle
11. Egg stage
12. White pine weevil or spruce weevil
13. Rhizomorphs
14. Spumaline
15. *Arceuthobium americanum*

Outsider no more

I'm from far, far away.
Here I have no real impediment.
By the time you know of me,
I'll be a well established resident.

I came here once before.
But the winter was way too cold.
I froze my little butt off,
And I couldn't gain a foothold.

A degree or two increase,
Makes your winter much less strange.
So I really think it's time,
To increase my normal range.

I've come here to this place.
This time I've come to stay.
And I hope my natural enemies,
Will stay far, far away.

Tom Hutchison