

LETTERS TO THE EDITOR

The brown spruce longhorn beetle in Cape Breton: the good, the bad and the ugly

The Editor

Submitted by Christopher Majka, an ecologist who specializes in research on the biodiversity and biosystematics of beetles in Atlantic Canada.

Now that Brown Spruce Longhorn Beetles (BSLB) have been reported from Cape Breton by the Canadian Food Inspection Agency (CFIA), it's time for Cape Bretoners to inform themselves about this beetle and – most important – ask if its presence on the island is anything they should be concerned with.

Although the media reports about this species in Nova Scotia over the last decade has been legion, there has been much misinformation, and the most important fact about it has still not been answered – is it really a pest? But first, three myths.

Myth # 1: The BSLB was first found in 1999. The BSLB was first collected in Nova Scotia in Point Pleasant Park (PPP) in Halifax in 1990 in a survey conducted by the Halifax Field Naturalists, not 1991 as the CFIA frequently reports. No one knows how and when it came to North America. It could have come on wooden pallets imported through the port of Halifax, or it may have been introduced to the park as early as 1878 when thousands of conifers were imported from Europe (without any quarantine restrictions) and planted in the park. Consequently, we don't know how quickly it has been dispersing. Thus, its recent apparent appearance in Cape Breton may simply reflect the fact that biologists have recently started looking for it there.

Myth # 2: The BSLB attacks healthy trees. The BSLB, like virtually all longhorn beetles, feed on dead and dying trees. In Nova Scotia there are 96 species of longhorn beetles, and they perform an important ecological task in forests – they help in the decomposition

of dead wood, releasing nutrients back into the soil. The beetles feed on trees and branches that have been broken, damaged by fire, struck by lightning, infected by fungi, are under severe water stress, or whose health has been seriously compromised by other factors. There's no evidence either here in Nova Scotia, or in Europe where the beetles are native, that they feed on healthy trees. Even the CFIA no longer claims that this is so.

Myth # 3: The BSLB has no natural predators or parasites in Nova Scotia. A study conducted by the CFIA itself in Point Pleasant Park in 2000 found very high rates of parasitism (up to 56%) of the BSLB by native braconid wasps – an excellent illustration of natural bioregulation. Moreover there is no evidence that native predators, such as woodpeckers which feed on wood- and bark-boring insects, discriminate against the BSLB and do not feed on it exactly as they do on native beetles.

All this is good news. Now the bad and the ugly.

The central question – is the BSLB in any substantive way different from that of the large suite of native longhorn beetles and other wood boring insects that are present in Nova Scotia – has not been answered by the CFIA. Moreover, the CFIA have not even attempted to answer it. Let's look closer at the facts.

There are 96 species of longhorn beetles in Nova Scotia; some feed on dead and decaying hardwoods and other softwoods, but there are 36 other species that – like the BSLB – feed on dead and dying spruce. There are also 15 species of metallic wood-boring beetles that feed on dead and dying spruce, and horntail wasps and many species bark beetles that do the same. In terms of the threshold of how "ill" a tree is when it is colonized by wood and bark-boring insects

(i.e., 75% healthy, 50% healthy, 25% healthy, etc.), is the BSLB any different than any of these other insects? We know that they do not colonize 100% healthy trees; we know that they do colonize dead trees (i.e., 0% healthy). Is the threshold for the BSLB any different, than that of the 51 other longhorn and metallic wood-boring beetles?

This is their most important question to answer about the BSLB, because if they are not different from native species (and there is a good deal of preliminary evidence that this is the case) then their presence in Nova Scotia is of little more than academic interest. If they were absent from the province, all the native wood and bark-boring beetles would already be doing what they are – namely colonizing dead and dying wood. If we already have 51 species in the province that fulfill this ecological role, does having 52 make any difference?

You would think, therefore, that answering this question would be at the top of the list of priorities for the CFIA – and you would be wrong. Since 2000 when the agency began its eradication (and later containment) program in the province it has spent a small fortune on these efforts, convinced from the get-go that this was an invasive pest. It has never stopped to do the research to determine if this assumption is correct.

For the past decade Nova Scotia has been in the grip of an eradication juggernaut. The science to support the need for this campaign is almost entirely lacking. If the BSLB is a problem, let's find out. If it's not a problem, let's stop worrying about it – there are lots of other pressing environmental problems that require our attention. It is time to ask if the emperor has any clothes – and demand answers.

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