

The Plants We Love to Hate

One of the traits I enjoy about Larry Lamb, my early mentor and now friend and colleague, is his outrageous passion for plants. Like the thousands of other students that went through the Ecology Lab at the University of Waterloo, we learned from Larry to prize and adore Ontario's native plants. We also learned to revile its alien and invasive species.

When I left to do my Master's degree at Memorial University of Newfoundland, there was a small inner sigh of relief to be able to work with plants on the landscape from a different context than the one I had learned in Ontario. One small fact troubled me about this invasive plant thing: weren't I, and Larry, and most of the students, faculty and staff at the university, and most of the human population of Ontario, in fact, non-native? One could even say invasive. And if we are to revile all biota in Ontario that is non-native, how is it logical and consistent to overlook our presence here or to value it differently?

It was my great good fortune to have as my thesis topic the invasion of Coltsfoot (*Tussilago farfara*) in Gros Morne National Park on the west coast of Newfoundland. Before I even got there, I was assigned reading that demonstrated that the flora of the harbours that brought ships back and forth between England and St. John's consisted of the same mix of species native to England and native to Newfoundland. Propagules were loaded and unloaded with ships' ballast. Then there was the plant native Americans called "white man's foot" – *Plantago major*, or Broadleaved Plantain, because the flat, foot shaped leaves of the rosettes resembled foot prints, and this new plant could be found on paths wherever the newcomers trod.

As I delved into the literature more, I discovered points of view that talked about disturbance as one of the elements of invasion, and that disturbance could not only be local and obvious, say the cutting of forests and tilling of soil, but distant and subtle, such as the mercury and pcbs we now find in the Arctic, a product of distant southern industry. The idea of disturbance as one of the drivers of botanical invasion (along with availability of propagules and suitable plant-available resources) challenged the increasingly popular notion that plants such as Purple Loosestrife (*Lythrum salicaria*) were just intrinsically *bad plants*. As campaigns mounted to mobilize volunteers to rip European Buckthorn (*Rhamnus cathartica*) and Garlic Mustard (*Alliaria petiolata*) from woodlots, this notion of invasives as gangsters bullying and outcompeting our native species was popularized and they became the plants we love to hate. It gave us licence to do to them what we would never do to other plants, and to feel good about it.

A dark tangle of Buckthorn and robust understory of Garlic Mustard characterized a study site near the University of Waterloo that I nicknamed "Woodlot from the Planet Zog". It turned out, after my exhaustive airphoto research, to have been created when Laurel Creek was moved and channelized. Channelization profoundly affected the hydrology and thus the vegetation of this small riparian remnant. And before the end of my field season in Gros Morne National Park I discovered that,

as I first revealed at a Park potluck supper, "it's coming from the gravel pits". The practice of stockpiling gravel for road building so that there was a seven year supply allowed the small amount of Coltsfoot that existed in the park previous to its infrastructure building period to colonize the stockpiles. There they formed extensive networks of rhizomes that were eventually excavated and sown along the roads in a favourable high pH substrate. This conspicuous invader was on every kilometre of road in the park.

I also discovered the human dimension of attitudes around invasive species control. What were the underlying values that people have about, say, Purple Loosestrife and its control? I found that the discipline of Biology thinks of *Homo sapiens* as outside of nature. It follows that any of our actions that lead to the movement or establishment of exotic species means that they, too, are unnatural. Another premise and conclusion that did not sit well with me. Happily, though, my discipline of Geography doesn't see humans the same way. We are a part of nature, and as geographer George Marsh said, "an exceptionally powerful biotic factor (Williams 1993)".

So, given my own research and experience, not to mention the many capable researchers who have arrived at similar conclusions, I become a little cranky when I hear sabres rattled and battle cries sounded against some of the plants that have stabilized slopes and streambanks, colonized contaminated sites, and provided habitat where our doings have made it difficult for native species to do so.

Like all botanists, I am deeply appreciative of vegetation communities that remain largely unimpacted by invasive species. And my shoulders sink a little when I breach a woodlot edge to find the ground strewn with undecayed wood overgrown with fungicidal garlic mustard in its various stages of development. I understand the management imperative that elects to control invasive species in sensitive habitats. But what I ask you all to appreciate is that these species did not arrive here on their own. We brought them, and our activities, whether through the importation of earthworms, the increased ambient temperature created by urban heat islands, or any of a multitude of other settlement effects, are the reason for their existence. We are the invaders. It is the nature of our species to spread and colonize as we did when we left Africa 60,000 years ago. We are a part of nature, as are the plants we bring. Like us, they are here to stay.



Cheryl Hendrickson, Editor

References

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