

Beware of Invasive Species

There is perhaps a tendency to mistakenly think of plants as being “rooted in place”. However, their ever increasing ability to travel through direct and indirect human assistance to new habitats both near and far can be a blessing or a curse...depending upon just how successful they are in relocating and the resulting threat that success creates in displacing natural vegetation.

A plant that succeeds at the expense of natural or cultivated vegetation soon becomes identified as an “Invasive Species”. Invasive species are plants that are alien to their new habitat and have biological characteristics such as strong root and reproductive systems and vigorous growth habit that allow them to out-compete and eventually threaten the viability of native or cultivated plants. This can result in reduced biodiversity and alteration of natural habitats that then impact negatively on both native flora and fauna. Native species can be deemed invasive if changing environmental circumstances allow them to overtake other native species within their habitat such as the case with the Manitoba maple which in many areas of Canada is now considered an undesirable “weed tree”.

Invasive species tend to be most problematic in areas that have been “disturbed” through human activity. They become very difficult to control or eradicate through natural means and when the threat to native plant and animal populations, successful cultivation of cash crops or human enjoyment of natural areas is heightened, they become the focus of programs aimed at eradication or at least limiting their spread to other areas.

It is the responsibility of all gardeners to be aware of the “invasive status” of any plant they bring into their gardens and to ensure they do not inadvertently contribute to increasing the level of threat these invasive species bring to the health of our natural species and habitats.

The following three invasive species are ones that I personally have struggled with in our home property in Southern Ontario (GTA) and cottage property in Central Ontario (Haliburton). They require constant vigilance in monitoring for new invasions and continuing efforts to control existing infestations. Left unattended they would quickly overrun both our gardens and the natural woodlands and meadows surrounding our properties. We do not use herbicides, but with large infestations that threaten natural areas this option may have to be carefully considered and the risks weighed in order to minimize the damage and contain the spread of these species. Researchers are also looking at biological ways to contain these invasive species and hopefully in the near future we will be able to address the spread of invasive species with less risk to the environment.



Garlic Mustard

Scientific Name *Alliaria petiolata*

Family Name Mustard Family (*Cruciferae*)

Type of Plant Herbaceous Biennial;
Non-native plant introduced by early colonists as
a cooking/medicinal herb

Habitat/Culture Woodlands, forest edges
and trails, roadside ditches; highly adaptable in
terms of light, soil and moisture requirements

Level of Threat High

Description - Identifying Characteristics

Height up to one metre tall **Spread** 10 – 15 cm

Stem Tall with little branching; smooth or with a few simple hairs.

Leaves First year plants produce dark green rosettes of a few to many leaves; leaves vary in shape from first year obovate (kidney) shaped with broad, rounded tip to second year upper leaves that are narrower and ovate with an acute apex and more deeply serrated, margins arranged alternately

Roots Shallow fibrous root system that typically has a characteristic s-shaped bend that helps the plant “grab” the soil. Mature plants are however easily uprooted with hand pulling.

Flowers Small, white, flowers with 4 petals, 3-6mm long and wide; grow predominately at the end of the stem in late spring to early summer. Leaves and flowers have garlic-like smell.

Propagation Prolific seed producer. Short pedicels bear narrow seedpods that readily dry out in mid-late summer and burst open releasing small black seeds. One plant may produce up to 800 seeds that can remain viable in the soil for up to five years.

Control

Infestations spread rapidly. Control requires early detection and eradication generally through hand pulling. Once established, focus on containment and prevention of further spreading by pulling or cutting before seeds are produced. Careful disposal of pulled plants required due to hardness of seeds.



Bind Weed

Scientific Name *Convolvulus sepium* (Hedge Bindweed) *C. arvensis* (Field Bindweed)

Family Name Morning Glory Family
(*Convolvulaceae*)

Type of Plant Vigorous perennial vine.
Readily adaptable to disturbed soil areas

Habitat/Culture Forest edges and trails,
abandoned fields, roadside ditches, gardens, lawns

Level of Threat Low - Medium

Description - Identifying Characteristics

Height/Spread Vines grow quickly up to 5 meters; can form dense, tangled mats

Stem Long slender, trailing, twining or creeping smooth stems with extensive branching.

Leaves Arrowhead-shaped (hastate) alternate leaves with prominent lobes at leaf base; 2- 10 cm long, with smooth margins.

Roots Deep, extensive root and rhizome system. Also capable of rooting from each stem nodule.

Flowers Resemble miniature white, trumpet shaped ornamental morning glory blooms. Generally appear singly in axils of leaves; flower stalk has two small leaf bracts.

Propagation Introduced to new area by seeds spread by birds, water, manure or as commercial seed contaminants. Seeds have a hard, impermeable seed coat, and can remain dormant in the soil for over 20 years. Once established spreads rapidly

through vigorous roots and rhizomes that can regenerate if top removed.

Control

Very difficult to eradicate. Small new infestations may be controlled through repeated removal of top growth and deep cultivation that depletes root system. Larger established infestations require crop rotation and consideration of careful, repeated application of selected herbicides to destroy root.



Dog Strangling Vine

Scientific Name *Vincetoxicum nigrum* (L.)

Family Name Milkweed Family (*Asclepiadaceae*)
(this can confuse Monarch butterflies that require true Milkweed plants for egg laying and survive of larvae)

Type of Plant Aggressive perennial twining vine that readily adapts to disturbed soil. Tolerates variety of soil and moisture conditions.

Habitat/Culture Forest edges and trails, fields, fencerows, roadsides, ravines

Level of Threat Medium – High

Description - Identifying Characteristics

Height/Spread Vines grow up to 2 metres

Stem Long, herbaceous or woody twining stems that quickly scramble over ground, rocks, and vegetation forming impenetrable masses that “strangle” out other species.

Leaves Ovate shaped leaves with rounded base and sharply pointed apex. Leaves are opposite (2 per node) with small hairs present on smooth margins and heavy veining on underside.

Roots Vigorous fleshy, fibrous rootstalk or rhizome becomes more woody with age.

Flowers Small pink, red-brown to dark maroon/purple flowers that begin in late May and end mid-July.

Propagation	Reproduce by seed and by massive underground root system (rhizomes). Seed is extremely viable once it germinates and the rhizomes can also propagate many new plants. Fruit pods resemble long narrow milkweed pods and release large numbers of parachute seed from mid-August to early-November
Control	Very difficult to eradicate. Requires vigilant mowing and if possible removal of entire root system. Large aggressive infestations may require carefully considered and controlled use of herbicide Arsenal (preferably by professionals).

Resources

Chambers B, Legasy K, Bentley, C. 1996. Forest Plants of Central Ontario, Lone Pine Publishing, Edmonton, Alberta.

Invasive Species

Canadian Wildlife Federation

<http://www.cwf-fcf.org/en/resources/encyclopedias/invasive-species/>

Canadian Wildlife Services - *Invasive plants and their biology, impact and control options*

http://www.cws-scf.ec.gc.ca/publications/inv/11_e.cfm

Fydon, Andrew. *Andy's Northern Ontario Wildflowers Invasive Plants of Ontario*

http://www.ontariowildflower.com/invasive_plants.htm#top

Royal Botanical Gardens

Invasive Plants <http://www.rbq.ca/cbcn/en/projects/invasives/invade1.html>

Invasive Plants List http://www.rbq.ca/cbcn/en/projects/invasives/i_list.html

The Ontario Woodlot Association - *Invasive Exotic Species in Your Woodlot, S & W Report/FallWinter 2001, Vol. 22*

http://www.ont-woodlot-assoc.org/sw_invasive_exotic.html

Garlic Mustard

Wisconsin Family Forests 2009 – *Garlic Mustard Identification and Control*
<http://www.in-sitevideo.com/wff/garlicmustard.html>

Michigan State University Extension – *About Garlic Mustard*
<http://www.ipm.msu.edu/garlicAbout.htm>

Bindweed

Garden Wise Online, – *Invasive Bindweed - July 2008*
<http://www.gardenwiseonline.ca/gw/ask-pros/2008/07/18/invasive-bindweed>

Ontario Ministry of Agriculture, Food and Rural Affairs – *Field Bindweed Fact Sheet* <http://www.omafra.gov.on.ca/english/crops/facts/01-007.htm>

Dog Strangling Vine

Fydon, Andrew. *Andy's Northern Ontario Wildflowers Invasive Plants of Ontario*
<http://ontariowildflowers.com/main/species.php?id=200>

Ontario Ministry of Agriculture, Food and Rural Affairs – *Dog Strangling Vine – An Invasive Species Creeping into Agricultural Fields*
http://www.omafra.gov.on.ca/english/crops/field/news/croptalk/2006/ct_0306a7.htm

Ontario Ministry of Agriculture, Food and Rural Affairs - *Ontario Weeds – Dog Strangling Vine*
http://www.omafra.gov.on.ca/english/crops/facts/ontweeds/dogstrangling_vine.htm

Routh, John. Task Force Vice-Chair, Living in Toronto - *Have you seen this plant? Dog strangling Vine.*
<http://www.toronto.ca/don/dsv/index.htm>