

Post-Settlement Tree Diseases and their Impacts in Mono Township

John Riley, start 17 Nov 2001, update June 2008

Tree Species	Vector(Bold=Mono)	Specifics	Source	First North Am.	First Canada	Diagnosis	Impact in Mono
Tamarack	Larch Sawfly	<i>Pristiphora erichsonii</i> Insect			1878, Bary, Quebec		None apparent
	Larch Canker	<i>Lachnellula wilkommii</i> fungus	Europe	1920s Massachusetts 1981 NE Maine	1980 Maritimes		None apparent
Beech	Beech Bark Blight	Beech scale <i>Cryptococcus fagisuga</i> . Fungus <i>Nectria coccinea</i> and <i>N. galligena</i>	Asia, to Europe to N.Am.	1890 Halifax, Nova Scotia	1890 Halifax Scotia, infest through US to Ontario in 1990s	Fungal bloom on bark, white and red; then wood rot	Major losses of mature trees at farm in Mono by 2000
Oaks	Gypsy Moth	<i>Lymantria dispar</i> moth	East Asia	1869 France to Mass.		Defoliation	Periodic
Butternut	Butternut Canker	<i>Sirococcus clavignenti-juglandaceum</i> fungus	Eurasia	Wisconsin 1967	1991 SW Ontario		Mature trees dying in Mono 2000. Not at farm
Elm (White, Rock, Slippery, with less effect on English and less impact on Chinese Elm)	Dutch Elm Disease	Native Elm Bark Beetle (<i>Hylurgopinus rufipes</i>) and European Elm Bark Beetle (<i>Scolytus multistriatus</i>) and larger Shothole Borer (<i>S. mali</i>), carrying Asian fungus <i>Ophiostoma ulmi</i>	Eurasia	-Bronx Zoo 1909 - Ohio 1930		Dieback of leaves and limbs; major chambering of cambial wood layer just under the bark	Eliminated all old trees, youthful trees up to 10" dbh growing well - last original tree died on farm in Mono in 1998. Solitary sentinel still in fencerow 16" DBH.
Chestnut	Chestnut Flight	Fungus <i>Cryphonectria parasitica</i>	Asia, via Europe 1919	1904 New York Zoological Garden			North of native range. Two planted trees north of disease range.
Pine	European Pine Shoot Moth (borer)	<i>Rhyaciona buoliana</i>		1914 New York	1925	Red Pine shoot dieback	Red Pine dieback in Mono may be this
	Pine Shoot Beetle	<i>Tomicus piniperda</i> beetle	Eurasia	1992 Ohio	1998 Quebec 1993 Ontario	Egg galleries on shoots, chlorotic and wilting shoots	Major losses of White Pine in Mono
	Eastern Pine Shoot Moth (borer)	<i>Eucosma gloriosa</i> moth	Eurasian	Connecticut			
Beech, Sugar Maple	Pear Thrips	<i>Taeniothrips inconsequens</i>	Eurasia	?Great Lake states 1970's Pennsylvania			?
Sugar Maple etc	Asian Long-horned Beetle	<i>Anoplophora glabripennis</i>	East Asia	1997 Chicago, New York - trying to extirpate	1999 Waterloo (extirpated)	Attacks all deciduous trees	Not apparent yet.
Sycamore	Anthracnose Fungus	<i>Anthracnose errabunda</i>	Eurasian				Two planted N of range
Basswood	Basswood (maple) Thrips	<i>Thrips calcaratus</i>	Eurasia	1926 Wisconsin			Not apparent yet
Hemlock	Woolly Adelgid	<i>Adelges tsugae</i> insect	Europe	1927 Connecticut Presently n. N.Y. State		White flocculent secretions	Not apparent yet
Ash	Mosaic (yellow) Virus	Cherry leaf roll nepovirus	Eurasia				Not apparent yet
	Emerald Ash Borer	<i>Agrilus planipennis</i>	East Asia	2002 Detroit – in pallets?	2002 Windsor – flight across river	Attacks all ash; galleries under bark	Not apparent 2002
Pasture (grasses)	European Chafer (White Grub)	<i>Rhizotrogus majalis</i> beetle	Europe	?	1959 Niagara Pen.	Eats grass roots, kills pasture	Major infestations starting 2000

Major Introductions Recently Arrived in Mono – 1) Western Conifer Seed Bug, *Leptoglossus occidentalis*, which reduces Pine seed production, infests houses, smells like related stink bugs, but claimed to be harmless, introd. ca. 1995 in Mono; 2) Asian Lady Beetle, *Harmonia axyridis*, seeded heavily by US Gov't in 70s & 80s to combat aphids, with Asian Soybean aphid arriving in N. Am. in 2000 (born pregnant), and totally infesting S. Ont. from June 2001 to now, with predator exploding also, infested Mono August 2001, also likely impacting on all native Lady Beetles; also claimed to be harmless.

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