

The Asian Long-horned Beetle (*Anoplophora glabripennis*) is native to North-East Asia. This destructive insect is a very serious threat to the hardwood trees of North America. Thousands of trees have already been cut down under federal quarantine in the urban forests of New York City and Chicago. The first Asian Long-horned Beetle infestation in Canada was detected in Toronto and Vaughan in September 2003. Since then, the Canadian Food Inspection Agency (CFIA) implemented an intensive eradication program with assistance from the City of Toronto, City of Vaughan, Region of York, Toronto and Region Conservation, Ontario Ministry of Natural Resources, Canadian Forestry Service and United States Department of Agriculture. For more information visit the CFIA website at: www.inspection.gc.ca. You can also find more details at www.toronto.ca/trees in the online version of the "Trees under Threat-the Asian Long-horned Beetle in Greater Toronto" booklet.

This insect has four stages of development: egg, larva, pupa, and adult beetle. After mating, female beetles lay **eggs** in oval wounds made on the tree bark. **Larvae** start to feed by tunneling through living bark and fresh sapwood into the central heartwood. The egg and larvae are over-wintering stages. **Pupation** occurs in the spring near the bark. The new **adult beetles** emerge in July through perfectly round, 1cm wide exit holes. The life cycle varies from 1 to 3 years in living trees, but may take up to 7 years in solid wood packing materials used in overseas shipping. In Toronto's climate Asian Long-horned Beetle completes its life cycle in one or two years.

Adult beetles are 2 to 3cm long and shiny jet-black with numerous white spots on their backs. Their long black and white antennae are segmented and may be up to 2 ½ times their body length. Adults may be seen outdoors during the warmer parts of the day from summer through late autumn. They are capable of flying, but do not go very far. They are usually seen feeding on tree leaves or branches before mating.



Adult beetle



Egg laying sites



Exit hole and larval tunneling

Hosts and Damage

Preferred hosts : All species of maple, birch, elm, horsechestnut, willow, poplar, hackberry, London plane and mountain ash. Maple is the most preferred host.

Non hosts: All coniferous trees, ginkgo and honey locust.

The suitability of all other species is unknown. For some tree species there is data indicating that they are unsuitable hosts (e.g. the beetle may feed on leaves and lay eggs on these tree species but larvae are not able to fully develop into a beetle to complete the life cycle). For other tree species there is no recorded data. Still much is unknown concerning the biology and ecology of the Asian Long-horned Beetle in Ontario. A comprehensive research program is being conducted in the infested areas of Vaughan and Toronto, that is expected to answer many questions about dispersal, host preference, egg laying behavior and other issues related to the biology and ecology of the beetle outside of its native range.

The eradication program currently involves the removal of trees from the preferred host category in designated areas. Maps of the infested areas can be seen on the above mentioned web sites.

Extensive feeding by the larvae in living trees may cause many of the affected branches to break and fall. The smooth barked upper crown branches of young healthy vigorous trees are preferred, but older main stems and even surface roots of mature trees may also be attacked. A lot of coarse sawdust-like material is created on and around the tree by the egg laying, boring, and emergence activities. Wounds caused by Asian Long-horned Beetle may cause sap flow. Most of the infested trees die in a short period of time.

Specific Management Practices for Control of the Asian Longhorned Beetle:

- To prevent the spread of this insect, the infested trees are cut down and the wood destroyed quickly before the adult beetles emerge from the tree.
- Report any suspected evidence or actual sightings to the Canadian Food Inspection Agency at **1-800-442-2342** or **416-665-5055**. When you call, ask for someone who deals specifically with the Asian Long-horned Beetle. Staff will be sent to inspect the site if enough evidence is available.
- If you observe a beetle that may be the adult of Asian Long-horned Beetle, collect it in a small jar and call the Hotline above. Prompt reporting will help to prevent the spread of this insect.

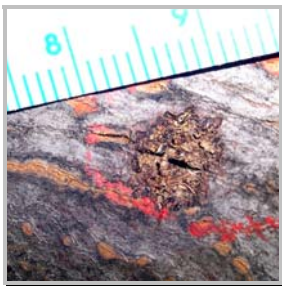
Before calling, look for the following indicators:

The adult beetle.

Most likely to be found from July to October.



Round holes in bark, 1cm wide.



**Oval wounds
(egg laying scars)
on bark.**



**Sap leaking from exit
holes or wounds from
egg laying sites.**



**Coarse sawdust
on branches or
at tree base.**

Forest Health Care is a holistic approach to tree care that focuses on improving the health of trees in an urban environment. Our objective is a healthy, sustainable urban forest. Trees in urban forests are often stressed by compacted soil, drought, poor planting and pruning techniques, air pollution, road salt, damage from construction and much more. Trees planted in the right sites and properly maintained are less likely to suffer and are more resistant to pest problems.

Pest problems are managed using a decision making process that considers the following:

- Identification of the host and the pest.
- Monitoring of the host and the pest.
- Selection of the appropriate management strategy.
- Evaluation of the management plan.

Our focus is on pest management programs that are environmentally, socially and economically sound.