Coleoptera: Cerambycidae

**Anoplophora glabripennis** (Motschulsky)

Asian long-horned beetle

**IDENTIFICATION**

Adults are large shiny black beetles, 20 to 35 mm long and 7 to 12 mm wide. There are up to 20 irregular white spots on each elytron. There is one prominent spine on each side of the black thorax. The antennae are longer than the body and consist of 11 black segments with a white or whitish-blue base. The legs are black and have a bluish tinge.\(^1\),\(^3\),\(^8\),\(^9\)

**HOST TREES**

*Acer, Aesculus, Albizia, Betula, Celtis, Platanus, Populus, Salix, Sorbus* and *Ulmus* are host trees in North America.\(^1\),\(^3\),\(^8\) The suitability of *Alsina, Crataegus, Elaeagnus, Fraxinus, Hibiscus, Malus, Morus, Prunus, Pyrus, Quercus, Robinia* and *Tilia* in North America is still in question.

**LOCATION OF INFESTATION WITHIN THE TREE**

Female beetles oviposit on exposed roots, along the entire hole and on branches as small as 2 to 3 cm in diameter.\(^4\)

Immature larvae feed on the inner bark and sapwood while mature larvae feed on the heartwood.\(^4\),\(^8\) Beetles feed on leaves, petioles, or the inner bark of twigs.\(^4\),\(^8\),\(^9\)

**HOST CONDITION**

Healthy and weakened trees. Females do not oviposit on dead, debarked wood.\(^1\)

**DISTRIBUTION**

China, Korea and Japan. Introduced and under eradication in New York, Chicago, New Jersey, Toronto, Bayern (Germany), Gien and Sainte Anne sur Brivet (France) and Braunau (Austria).\(^1\),\(^4\),\(^8\)

**SIGNS AND SYMPTOMS**

Beetles feed on the leaves and twigs of host trees.\(^1\),\(^4\),\(^8\),\(^9\) Feeding damage on young shoots causes them to wither and die.\(^9\)

Females chew oval oviposition niches (about 10 mm wide) and lay a single egg in the inner bark. Depending upon the tree species, the oviposition niches are initially reddish-brown but fade over time. Oviposition niches can occur from ground level up into the crown on branches that are at least 2 to 3 cm in diameter.

Frothy, white sap may exude from recently created oviposition niches.\(^1\),\(^4\),\(^8\) Over time, the sap ferments and stains the bark.

Young larvae feed within the inner bark and sapwood and can cause the bark to become concave.\(^9\),\(^9\) Mature larvae bore into the heartwood. Late instar galleries are initially perpendicular to the stem axis but gradually turn upwards and can reach lengths of 3.5 to 15 cm.\(^4\) These winding larval galleries can eventually lead to tree mortality in heavily infested trees. Coarse, sawdust-like frass is expelled from the larval galleries and will occur in piles around the base of the tree or in branch forks.\(^1\),\(^8\) Adults emerge through the wood by chewing round exit holes 6 to 12 mm in diameter and expel large, coarse wood fibres on the ground.\(^1\),\(^4\),\(^9\) Exit holes may be present anywhere on the larger above ground parts of the host, including branches, trunk, and exposed roots.\(^1\),\(^4\),\(^8\),\(^9\)

Leaf yellowing and wilting, pre-mature leaf drop, branch die-back and tree death are symptoms of advanced infestation.\(^1\),\(^4\),\(^9\)
Adult *A. glabripennis* (20-35 mm long). Note: approximately 20 irregular white spots on each elytron.

Bark staining caused by fermented sap.

New *A. glabripennis* oviposition niches (10 mm wide).

Old (darker) and new (reddish-brown) oviposition niches of *A. glabripennis*.

Frothy, white sap exuding from recent *A. glabripennis* oviposition niches.

Circular *A. glabripennis* exit hole (6-12 mm wide).

Coarse frass expelled by larva of *A. glabripennis*.