

DAFM Plant Pest Factsheet

Agrilus planipennis Emerald ash borer

EU
Priority
Pest!



Fig 1: *Agrilus planipennis* adult

Pest Characteristics

- **Pest:** *Agrilus planipennis*
- **Common name:** Emerald ash borer
- **Hosts:** *Agrilus planipennis* primarily feeds on species of Ash (*Fraxinus*). *Fraxinus excelsior* (Common/European ash) is a native Irish tree species that is widespread throughout the Irish landscape and would be at risk.
- **Invasive risk:** The pest was first detected in North America in 2002 and has since spread widely throughout the USA and Canada. Currently the pest is naturally dispersing westward through Asia and reached the Ukraine in 2019. *Agrilus planipennis* will likely reach eastern EU countries naturally in the coming years arriving from Russia and the Ukraine.
- **Entry pathways:** The most likely entry route for this pest into Ireland is on imports of host plants and wood products from regions where the pest is known to be present. Inspections of imports conducted at Irish Border Control Points should reduce the likelihood of entry via these pathways.
- **Symptoms:** Visual signs of infestation on trees are not always initially apparent. Early detection of outbreaks is best achieved through active monitoring of flying adults using dark green multifunnel or prism traps baited with attractant chemicals (Fig 2). The first visual signs of larval infestation of trees are canopy dieback and the production of epicormic shoots below the larval infestation zone. Signs left by adults are D-shaped exit holes on bark and foliar damage from maturation feeding.



Fig 2: *Agrilus planipennis* infestation: (a) green prism sticky trap (b) canopy dieback & epicormic shoots (c) D-shaped exit hole (d) foliar damage from adult feeding (e) yellowing of foliage from larval tunnelling.



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

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- **Distribution:** Its native range is in East Asia such as eastern regions of China and Russia as well as Korea and Japan. The pest has since spread east through Russia and reached the Ukraine. It has been introduced in to N. America and is now present in many regions of the USA and Canada.
- **Dispersal:** Adults are good flyers though natural spread of outbreaks is in most cases less than 10 km per year. However, dispersal can be aided by human assisted movement which can spread outbreaks in leaps.
- **Climatic suitability:** Modelling suggests the Irish climate may not support the pests lifecycle, even over a 2 year period. However, there is uncertainty over how accurate these current predictions are and how future climate change may influence establishment in Ireland.
- **Lifecycle:** *A. planipennis* usually completes a lifecycle in 1 year but in less suitable conditions it can take 2 years. Adults emerge from D-shaped exit holes in the bark in the spring and undertake maturation feeding on leaves prior to mating. Eggs are laid in bark crevices, ~90% of eggs are laid within a 100 m radius. Hatched larvae bore through the bark to feed on the phloem and cambium tissue forming gallery systems as they tunnel. Larvae undergo 4 developmental stages called “instars”. The fourth instar digs deeper into the tree and moults into a prepupa to overwinter. Pupation occurs in the spring to produce adults which chew the D-shaped exit holes.
- **If suspected:** If you find suspected symptoms or specimens, please submit images to DAFM at: plantpestreport@agriculture.gov.ie

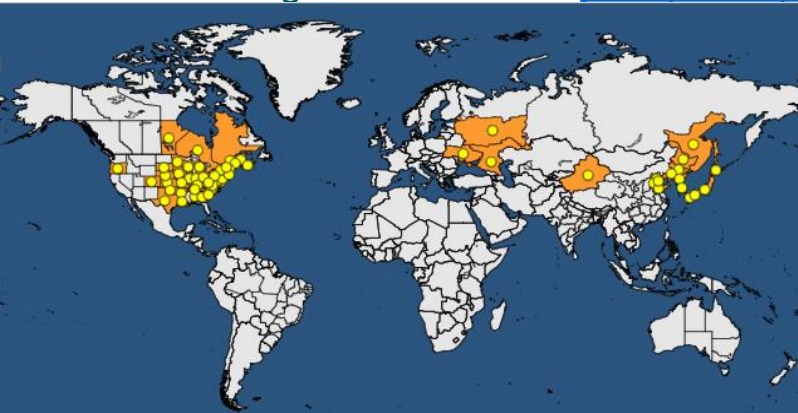


Fig 4: World map of *A. planipennis* distribution taken from the EPPO database ([EPPO](#))

Photo credits: Fig 1, 2 & 3 EPPO ([Link](#))



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