

DAFM Plant Pest Factsheet

Agrilus mali Apple buprestid



Fig 1: *Agrilus mali* adult specimen

Pest Characteristics

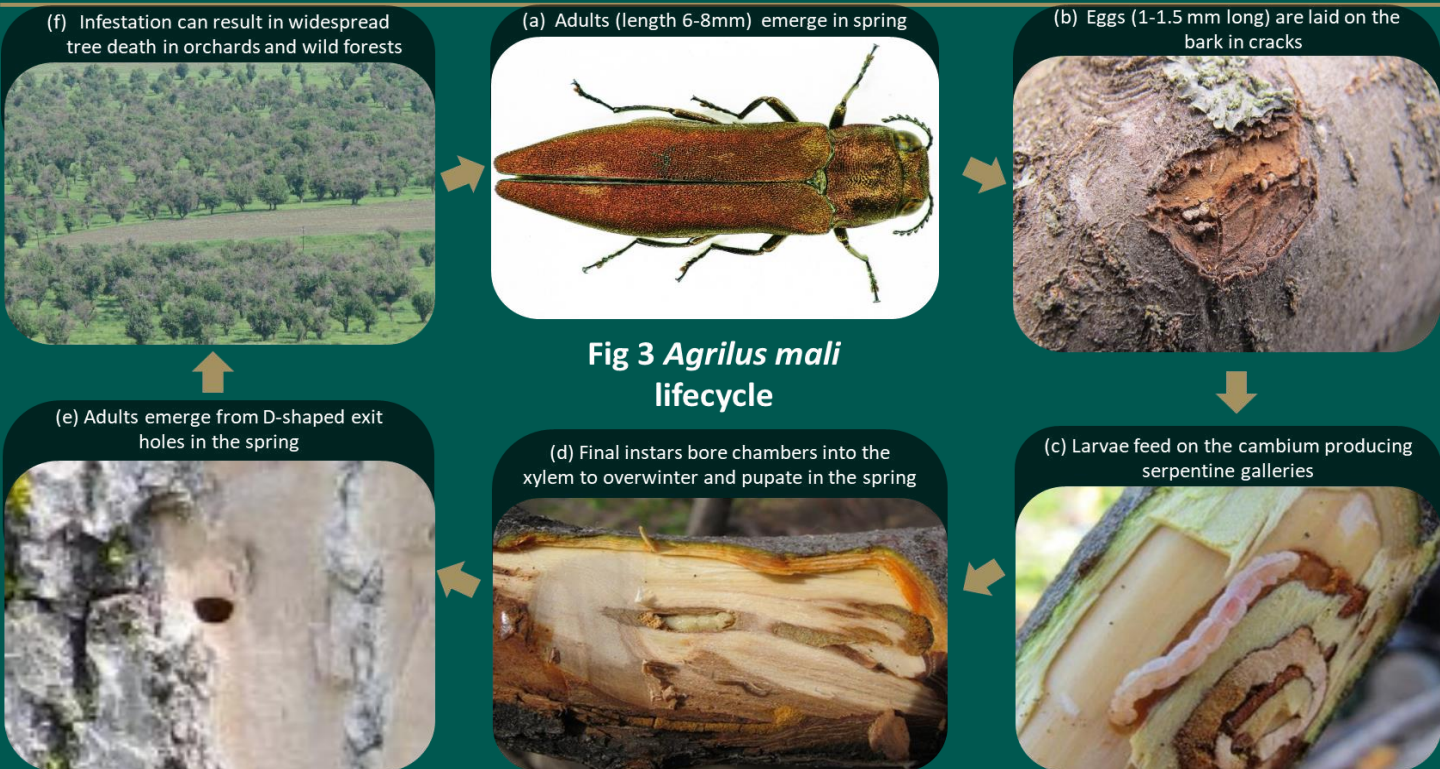
- **Pest:** *Agrilus mali*
- **Common name:** Apple buprestid
- **Hosts:** The pest is considered to primarily feed on species of apple (*Malus*). In its current range the pest has been found infesting the cultivated apple species *M. domestica* as well as the wild apple species *M. sieversii*.
- **Invasive risk:** The species is native to the eastern Asia. During the mid 20th century it spread south into central China becoming a widespread pest in apple production areas. In 1993 the first occurrences in North-eastern China (Xinjiang) were reported where it was found infesting wild apple forests bordering Kazakhstan.
- **Entry pathways:** The most likely entry route for this species into Ireland is on imports of apple plants for planting and apple wood products from areas where the pest is present. However, most of these pathways are currently prohibited limiting the potential for introduction into the EU or Ireland.
- **Climatic suitability:** The pest appears to be capable of establishment in most areas where apple production occurs in Europe, including Ireland.
- **Symptoms:** Include the secretion of red gum from infested branches, D-shaped exit holes in the bark (Fig 2 & 3). Larval galleries appear as sunken and cracked areas on bark. Dieback occurs on infested branches due to larval galleries girdling the plant preventing nutrient flow, heavy infestations can result in tree death. Using sticky traps (yellow & white) baited with cis-3-hexanol is used for early adult detection in China.



Fig 2: Symptoms on apple include (a) the production of a red gum from infested areas; (b) sunken gallery areas which often appear as cracks on bark; (c) dieback of branches.



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- **Impact:** In China the pest causes substantial damage. In apple orchards impacts can be controlled using a combination of insecticides and good management (pruning infested branches etc). However, in the wild apple forests of the Yili valley, populations have been difficult to manage since its introduction and considerable levels of tree death have occurred.
- **Distribution:** The pest is present in eastern Mongolia, Russia, the Korean peninsula and many Chinese provinces (Fig 4).
- **Dispersal:** The pest is considered to be a weak flyer $\sim \leq 1$ km. However, since its introduction into China it has spread widely, likely due to movement on plants for planting and as a hitchhiker on traded goods.
- **Lifecycle:** Adults emerge from infested trees through D-shaped exit holes in the bark. Adults undertake maturation feeding on fresh leaves, buds or young bark to complete their sexual development. Maturation feeding lasts 1-2 weeks after which adults mate. Eggs are laid singly or in groups of 3-6 in rough places such as cracks in the bark on the sunny side of the tree. A single female can lay up to 60-70 eggs. After hatching, larvae bore through the bark and phloem to reach the cambium where they feed, producing serpentine gallery systems. Larvae undergo 4-6 developmental stages called instars. The final instar bores a pupation chamber into the xylem and an exit hole. The final instar overwinters in the pupation chamber and pupation occurs in the spring (10-15 days) producing adults.
- **If suspected:** If you find suspected symptoms or specimens, please submit images to DAFM at: plantpestreport@agriculture.gov.ie

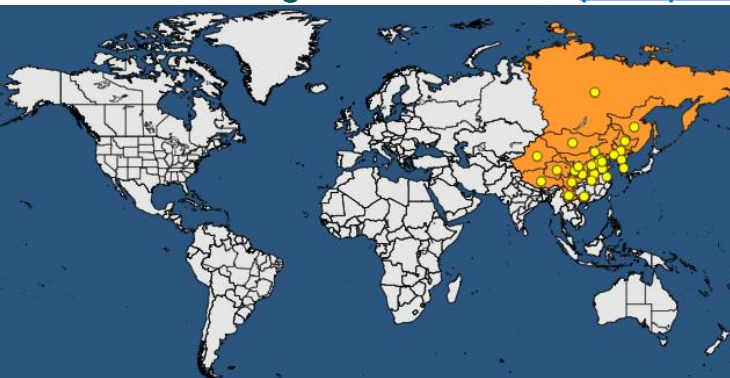


Fig 4: World map of *A. mali* distribution taken from the EPPO database ([Link](#))

Photo credits: Dr Wang Zhi-Yong Ecology and Nature Conservation Institute, Chinese Academy of Forestry, China)



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