

# EXOTIC PEST ALERT

## ASIAN LONGHORN BEETLE

An exotic beetle pest of broadleaved trees has recently become established in New York and Chicago in the USA. The pest is the striking black and white Asian longhorn beetle (ALB), *Anoplophora glabripennis*, a member of the beetle family Cerambycidae. ALB is a native of SE Asia (China (including Taiwan), Korea and Japan) where it is a major problem on broadleaved trees, especially in China.

Specimens of ALB have been intercepted at many locations in North America dealing with imported material and, as a result of a recent alert to Forestry Commission plant health inspectors, at several locations in Great Britain. As yet, there is no evidence to indicate that it has successfully attacked trees in Britain but, in view of the records of interceptions, it is vital that any finds are notified immediately to the addresses below.

### Biology of Asian longhorn beetle

Depending on geographic location and average temperatures the beetle develops through its full life cycle in either one or two years.

#### Adult

Adult emergence generally takes place from May to August, but may extend to October in some years. Signs of emergence are masses of wood shavings at the entrance to the round exit hole (9-11 mm diameter) and on the ground below the tree. Beetles fly to feed in the crowns of trees and to mate. Females lay eggs singly in slits which they cut in the bark of branches, usually where they join the trunk. Symptoms include some resin bleeding. Females live up to 66 days and lay around 30 eggs.

#### Eggs

Egg hatch, which takes from 7 to 17 days depending on time of year and on temperature, occurs in June/July during a one year cycle and in September/October during a two year cycle.

#### Larvae

The newly hatched larvae feed under the bark, where they pass through two moults, eventually boring into the wood in the late third or fourth developmental (=instar) stage. Feeding continues under the bark for one more instar, by which time the larvae have grown to approximately 50 mm long. Damage to the wood increases as the larvae grow, leading to galleries within the heartwood that might be up to 10 mm in diameter and several centimetres long. Larvae may be present at any time, including overwinter.

#### Pupae

When fully mature, the larvae moult to the pupal stage within a well-defined pupal chamber, packed at one end with distinctive wood 'shavings'. This usually takes place in the spring.

### The risk posed by ALB

ALB is a major pest in China, Korea and Japan where it kills many species of broadleaved trees, such as maples (including sycamore), poplars, alders, willows, cherries, apples, horse chestnut, elm, mulberry, boxelder, etc. The threat to Britain posed by the beetle has been emphasised by the establishment of populations in both New York (discovered in 1996, probably present for at least three years) and Chicago (discovered in July 1998, probably present since at least 1993). In both these locations, damage to street trees is high and a policy of felling, sanitation and quarantine is being exercised as the only viable management option.



Top: Adult beetle; Middle: Bark cut away to show egg  
Bottom: Pupa in chamber; Right: Egg slits with resin bleeding  
(Photographs courtesy of USDA)

## The risks to Britain

The larval stages of ALB are well protected within untreated wood and, therefore, it is possible for the beetle to be carried in international trade and to emerge at the final destination. This is undoubtedly what led to the infestations in the USA, where damaged trees in urban environments first alerted the authorities to the presence of the beetle. Analysis of climate data by scientists at the Central Science Laboratory suggests that most of England and Wales and some warmer coastal areas of Scotland are suitable for beetle establishment and breeding. The greatest risks come from presence of the beetle in packaging material associated with a very wide range of commodities from China. We can expect extensive damage to both urban and woodland/forest trees if the beetle establishes here in Britain.

## Be alert

Look for any of the following symptoms and report them immediately, providing information on damage, tree species and precise location. Pack any specimens securely in a crush-proof container (a film canister is ideal) and fasten the top with adhesive tape:

- imported wood and wooden packaging, dunnage, etc. Presence of oval 'grub holes', arising from larval feeding, with diameters > 3 mm. Also presence of round adult emergence holes up to 12 mm diameter. The adult stage may also be present during the spring and early summer.
- broadleaved trees. Any of the symptoms in the illustrations, particularly the signs of late stage feeding and possible broken branches, dead branches, dead tops or completely dead trees.



*Left: Damage caused by larval feeding under bark (Photograph by James E. Appleby, University of Illinois)*

*Middle: Characteristic wood shavings (USDA)*

*Right: Adult and emergence holes (Photograph by James E. Appleby, University of Illinois)*

*Bottom: Larvae feeding within wood (USDA)*

## Contact

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