

Citrus longhorn beetle, *Anoplophora chinensis*



Overview

Short description of *Anoplophora chinensis*, Citrus longhorn beetle

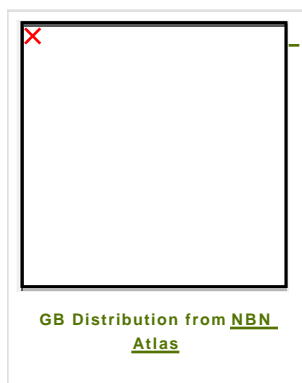
Large, 21- 37 mm long, stout beetle with shiny black elytra marked with variable white markings; long black antennae marked with white or light blue bands; polyphagous insect attacking over 100 species of broadleaved trees and shrubs.

Description of *Anoplophora chinensis*, Citrus longhorn beetle status in GB

First GB interception in 1921 but few further interceptions until 2005. Interceptions in GB since 2005 associated with commercial distribution of host trees. Not established. This is an EU listed pest and any findings must be reported to Fera.

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Distribution map



Habitat summary: *Anoplophora chinensis*, Citrus longhorn beetle

Citrus longhorn beetles have intercepted most commonly on Japanese maple trees. However, it can affect a wide range of trees and shrubs, including many important native and introduced species of broadleaved trees in GB. Most of the trees grown in cities and towns in England and Wales are potential hosts including: *Acer* spp. (maples), *Aesculus hippocastanum* (horse chestnut), *Alnus* spp. (alder), *Betula* spp. (birch), *Carpinus* spp. (hornbeam), *Citrus* spp., *Corylus* spp. (hazel), *Cotoneaster* spp., *Fagus* spp. (beech), *Lagerstroemia* spp., *Malus* spp. (apple), *Platanus* spp. (plane), *Populus* spp. (poplar), *Prunus* spp. (cherry etc.), *Pyrus* spp. (pear), *Salix* spp. (willow), and *Ulmus* spp. (elm).

Overview table

Environment:	Terrestrial
Species status:	Non-Native
Native range:	Asia-Temperate, Asia-Tropical, China, Malesia, Kazan-retto, Nansei-shoto, Ogasawara-shoto, North Korea, South Korea, Myanmar, Philippines, Taiwan, Hawaiian Is., Vietnam
Functional type:	Herbivore
Status in England:	Non-Native
Status in Scotland:	Non-Native
Status in Wales:	Non-Native
Location of first record:	Interception of maple trees (<i>Acer palmatum</i>) since 2005 - imported from China via The Netherlands in January 2008
Date of first record:	1921

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We try to keep these factsheets up to date, however if you notice any issues please contact us

Invasion history: *Anoplophora chinensis*, Citrus longhorn beetle

Origin

Native to China, Japan and other countries in South East Asia.

First Record

The first GB interception was in 1921 when a single adult beetle emerged from a bonsai at a nursery in Hertfordshire. There were very few further interceptions until 2005 when a number of beetles and larvae were intercepted on a consignment of *Acer trees imported from China*. In 2008 further beetles were found in private gardens in GB as well as on a nursery in Guernsey. The findings were on maple trees (*Acer palmatum*) imported to Guernsey from China via the Netherlands in January 2008. The infested trees in GB had been distributed from Guernsey by mail order. The findings in Guernsey were on trees that had not yet been distributed. There were further findings in 2009 and 2010 with beetles caught in private gardens having emerged from maple trees purchased over the last three years.

Pathway and Method

Citrus longhorn beetles have been intercepted in GB at nurseries, bonsai traders and in private gardens on imported trees and bonsai from China, Japan and South Korea. The most common hosts have been maples particularly Japanese maple, *Acer palmatum*, trident maple, *A. buergerianum* and imported dwarf apple trees, *Malus* spp. bonsai.

Species Status

Not established in GB. In 2000 an outbreak of the beetle was discovered in Lombardia, Italy. This outbreak is now too widespread for eradication to be possible, however containment measures are being implemented. Outbreaks of the pest have also been discovered in Soyons, France (first discovered in 2003), Westland, the Netherlands (2007), Rome (2008) and Boskoop, the Netherlands (2009).

Ecology & Habitat: *Anoplophora chinensis*, Citrus longhorn beetle

Dispersal Mechanisms

Natural dispersal of adults is through flight but evidence from studies on Asian longhorn beetles, *Anoplophora glabripennis*, indicate dispersal is generally less than 400 m (maximum 1-2 km). Long distance dispersal (between countries) is through movement of host trees for nursery trade

Reproduction

Citrus longhorn beetles have a 1-2 year life cycle in their native range, but this can be extended in cooler climates. Average adult fecundity is 15 eggs but a single female is capable of laying up to 200 eggs. Eggs are laid under the bark at the base of the trunk. Young larvae hatch within one to three weeks and initially feed on the green, sappy portion of the inner bark moving to the woodier parts at late larval stages. The pupal stage lasts for four to six weeks until a pre-adult is formed. The pre-adult is inactive and takes about one to two weeks to mature and emerge out of the tunnel through exit holes.

Known Predators/Herbivores

The pathogenic fungi *Beauveria brongniartii* is known to cause high adult mortality. Wasp parasitoids *Aprostocetus anoplophorae* n. sp. (Eulophidae) and *Spathius erythrocephalus* (Braconidae) have both been seen attacking citrus longhorn beetles in Italy.

Resistant Stages

None known.

Habitat Occupied in GB

Not established in GB.

Distribution: *Anoplophora chinensis*, Citrus longhorn beetle

Impacts: *Anoplophora chinensis*, Citrus longhorn beetle

Environmental Impact

In Italy, the damage caused by citrus longhorn beetles has been in urban areas. Most of the trees grown in cities and towns in England and Wales are potential hosts including citrus, apples, beech, birch, hawthorn, hazel, horse chestnut, plane, poplar, oak and willow. The larvae feed internally on the pith and vascular systems of the lower trunk and roots. The tunnels created by the feeding leave trees susceptible to disease and wind damage. The adults can cause more limited damage by feeding on

foliage and eating young bark.

Health and Social Impact

None known.

Economic Impact

Economic loss of amenity value host trees is likely to be significant. The costs of control measures should also be considered. Between 2008-2010, Lombardia plant health service planned to spend €10 million on eradication measures. A closely related species, the Asian longhorn beetle, *Anoplophora glabripennis*, caused the destruction of thousands of trees in the USA and eradication campaigns have cost \$800 million.

References & Links: *Anoplophora chinensis*, Citrus longhorn beetle

Identification

[CABI. \(2004\). Crop Protection Compendium.](#)

Biology, ecology, spread, vectors

[University of Florida's Institute of Food and Agricultural Sciences Fact Sheet](#)

Management and impact

[University of Florida's Institute of Food and Agricultural Sciences Fact Sheet](#)

General

www.fera.defra.gov.uk/plants/plantHealth