

Lemon tree borer

Oemona hirta

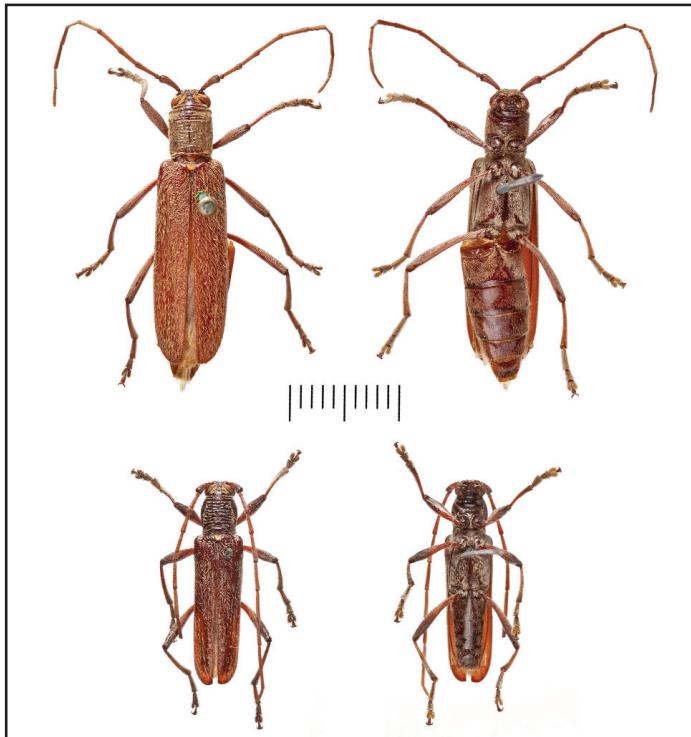


Figure 1. *Oemona hirta* (F.) Top row female and bottom row male.
Scale bar =1 cm. Image © The Natural History Museum, London

Background

The lemon tree borer, *Oemona hirta* (Fabricius) (Coleoptera: Cerambycidae) is a longhorn beetle native to New Zealand, where it is considered to be one of their most common insects. A single live larva was intercepted in a *Wisteria* plant imported from New Zealand to a nursery in West Sussex in October 1983. In June 2010 a number of *Wisteria* rootstocks imported at the beginning of June from New Zealand to a nursery in Worcestershire were found to be infested with the larvae of this insect and were destroyed. In July a live larva was found in another *Wisteria* plant in Cheshire that was connected to the previous find by the supplier. Several other related consignments of *Wisteria* rootstocks were also imported to other UK nurseries from the same supplier and have been checked for evidence of infestation.

Geographical Distribution

Native to New Zealand and found throughout both islands. Also reported to be present in Malaysia.

Host Plants

Highly polyphagous, recorded from more than 40 different plant genera. In its natural range the hosts include both native plant species and many of the introduced European species. Recorded host genera include: *Acacia*, *Albizia*, *Aleurites*, *Alnus*, *Aristotelia*, *Asparagus*, *Betula*, *Brachyglossis*, *Callistemon*, *Casimiroa*, *Cassinia*, *Chaenomeles*, *Choisya*, *Chrysanthemoïdes*, *Citrus*, *Clerodendrum*, *Corylus*, *Crataegus*, *Cyphormandra*, *Cytisus*, *Dahlia*, *Eucalyptus*, *Euonymus*, *Hibiscus*, *Hoheria*, *Juglans*, *Koelreuteria*, *Leptospermum*, *Macadamia*, *Malus*, *Oleana*, *Persea*, *Phyllostachys*, *Pinus*, *Platanus x*, *Populus*, *Prunus*, *Pyrus*, *Quercus*, *Rhus*, *Ribes*, *Rosa*, *Salix*, *Syringa*, *Syzygium*, *Tamarix*, *Telopea*, *Ulex*, *Ulmus*, *Vitis*, *Wisteria* and many more.

Description

Adult: A rather unremarkable brown beetle. Females range in size from 14 - 31 mm in body length, are larger than the males and have proportionately shorter antennae (Figure 1). Adults of both sexes are about 3.8 times longer than broad; the elytra or wing cases are clothed in pale yellow hairs (Figures 2 and 4), but the most distinctive feature is a series of transverse, parallel, raised ridges on the dorsal surface of the thorax (arrowed) (Figures 3 and 5), a feature most prominent in male specimens and not present on any of the longhorn species native to the British Isles.



Figure 2. Female *Oemona hirta*



Figure 3. Ridges on the thorax



Figure 4. Male *Oemona hirta*



Figure 5. Ridges on the thorax

Larvae: Creamy white (Figure 6) with dark brown to black mandibles (jaws) (Figure 7) and reaching 35 mm in length by 8 mm in width when fully grown. Although they appear to be legless the larvae do have three pairs of short but inconspicuous legs.



Figure 6. *Oemona hirta* larva in situ within a *Wisteria* stem



Figure 7. *Oemona hirta* larva, head end showing the dark brown/black jaws

Biology and Dispersal

In New Zealand the life-cycle takes at least 2 years to complete. Adults are active from the beginning of October through to the first week of January, and during this period they mate and lay eggs. Eggs are laid singly in leaf/stem junctions, bark crevices or in fresh pruning scars with each female capable of producing about 50 eggs during her life span. On hatching the larvae bore directly into the host and as they develop form long galleries, with periodic side branches to the surface through which they eject their sawdust-like droppings (frass). Larvae are present and active throughout the year but when fully mature (between mid-June and mid-October) they form a cell within the host and pupate. Newly formed adults remain within the pupal cell until their integument has hardened, after which they emerge, but they do not become sexually mature until 4 days later. The adults live for about 2 months and are good flyers. They are most active in the morning between 5 and 7 am and in the evening between 7 and 9 pm during which time mating occurs.

Detection and Damage

The lines of frass ejection holes are one indication of the presence of live larvae, but the feeding activities of the larvae can also cause small twigs to wilt or die resulting in clusters of dead leaves. Major damage by larger larvae can weaken branches to the point that they break under wind pressure of fruit load or may even be girdled and die. In New Zealand, *Oemona hirta* is of great economic importance since all commercial citrus varieties are attacked. Although best known as a serious pest of citrus trees, *O. hirta* also causes damage to other top fruit and some soft fruit (e.g. blueberry) crops. Ornamental trees and shrubs are also attacked and forestry crops (*Populus*) can be damaged. In the UK top fruit and our native trees could potentially be at risk.

Control

Longhorn beetles are difficult to control because the larvae and pupae develop inside the host and are protected from foliar insecticide treatments and most predators by the surrounding plant tissue. The only fully effective way of controlling larvae is to destroy the infested plant. Insecticide sprays may be effective against adults, provided that adults are contacted by the treatment or consume treated foliage.

Advisory Information

Suspected findings of *Oemona hirta* or any other non-native plant pest should be reported to the local Fera Plant Health and Seeds Inspector or to PHSI Headquarters, Sand Hutton, York.

Tel.: 01904 465625, Fax: 01904 465628

Email: planthealth.info@fera.gsi.gov.uk

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

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