

## **The longhorn beetle *Anoplophora chinensis* (form *malasiaca*), a new pest of woody ornamentals in Italy**

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### **INTRODUCTION**

Citrus longhorn beetle (*Anoplophora chinensis*, form *malasiaca*) (Coleoptera: Cerambycidae) is widely distributed in Japan and Korea (Lingafelter & Hoebeke, 2002). The first detection in Europe occurred in 2000, in Italy, in a nursery located between the provinces of Milan and Varese (Colombo & Limonta, 2001).

According to Directive 2000/29/CE (Att. 1, Part A, Sec. 1), citrus longhorned beetle is a quarantine pest in Europe and, in 2004, the Lombardy Region issued a Decree of Control and Eradication (B.U.R.L. – 2 February 2004).

The pest is a serious problem for the nursery industry, in the production of ornamental trees; it is also a potentially serious pest of citrus orchards and of many other established deciduous trees. Adults feed on the tender bark of small twigs and branches, and sometimes on leaf petioles. The female also chews through the bark of the host tree to the cambial layer, forming ‘egg scars’; she then inserts her ovipositor and lays a single egg (Lingafelter & Hoebeke, 2002). Larvae feed and develop in the wood of the main roots and trunks, within which they excavate tunnels. When larval density is high, infested trees can die or fall down.

### **MATERIALS AND METHODS**

Monitoring of citrus longhorn beetle was done by checking for the presence of holes, sawdust and oviposition scars in host trees, and by collecting adults and other stages. Such monitoring commenced at the core of the infestation, and was then extended out from this zone over increasing distances. All infested trees were located on a map, by means of GPS; a database, with information concerning these trees, was then created.

In order to limit the spread of the insect, one of three measures was chosen:

1. Trees showing evidence of the presence of the pest were cut down, and the plant parts removed and destroyed, in accordance with Phytosanitary measures (B.U.R.L. – 2 February 2004).

2. If stump removal was not possible, the stumps were killed with chemicals, and covered with a wire mesh cage for a period of two years, in order to capture any adults that might emerged. The wire mesh cages were also placed on the ground around the stumps, to cover a surface equivalent to the projection area of the tree crown.

3. At very low infestation rates on valuable trees, an exception was permitted by the Phytosanitary Service. Such trees were left uncut, but a wire mesh cage was placed around the base of each.

Besides the described actions, eggs, larvae, pupae and adults were also collected, to obtain more information on the development of the pest in the area under quarantine.

## RESULTS

Adults flew from the end of May until the end of August, with peak numbers in the middle of June. Males occurred earlier than females. In our climate, citrus longhorn beetle is believed to require one to two years for a single generation to develop. Exit holes have been found only at the base of trees and on surface roots; up to 90 per tree have been recorded.

The insect has been found in 13 villages, all relatively close to the first point of detection, covering an area of approximately 60 km<sup>2</sup> in which quarantine measures have been adopted. During 2003–2004 about 400 trees were removed and the bases of 400 others covered with wire mesh cages, according to the Phytosanitary Decree in force. In Italy, citrus longhorn beetle primarily attacks species of *Acer* (48%), *Platanus* (15%), *Betula* (14%), *Carpinus* (7%) and *Fagus* (5%). Damage has also been found on species of *Aesculus*, *Corylus*, *Cotoneaster*, *Crataegus*, *Lagerstroemia*, *Malus*, *Populus*, *Prunus*, *Rosa*, *Quercus* and *Ulmus*.

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## REFERENCES

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