

# NEW ASSOCIATIONS BETWEEN THE ASIAN PESTS *ANOPLOPHORA* SPP. AND LOCAL PARASITOIDS, IN ITALY (2005)

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## ABSTRACT

The Asian longhorned beetle (ALB) *Anoplophora glabripennis* (Motschulsky), and the citrus longhorned beetle (CLB) *Anoplophora chinensis* (Forster) (Coleoptera, Cerambycidae) have been accidentally introduced in a few urban sites in North America and Europe where they are considered as serious threats to urban and natural forests, and are subject to eradication. In their native area, both pests cause serious damage to many deciduous trees, mainly in the genera *Populus*, *Acer* and *Salix*. CLB is also a major pest of citrus in Japan. In 2000, the presence of *A. chinensis* was detected at Parabiago, Italy, in the neighborhood of a nursery where bonsais imported from Eastern Asia were grown. Many signs of much older introductions were found since then. A recent monitoring, still in progress, showed that the infested area extends at least 60 km<sup>2</sup> in the northwest of Milan and affects 16 municipalities. Given the current substantial extent of this infestation, and the density of the established CLB populations, there is a high probability that the status of the pest will be raised soon from "introduced" to "invasive", in Italy. In conjunction with the eradication programs,

biological control studies were initiated in order to find, identify, and evaluate the parasitoids that could successfully control the pest.

Parasitization of early stages of both hosts (ALB and CLB) in sentinel plants, placed at three sites within the area infested with CLB in Italy, showed that the egg parasitoid *Aprostocetus anoplophorae* Delvare (very likely originating from the Far East) is specific to CLB. Six early larval ectoparasitoid species, *Spathius erythrocephalus* Wesmael (Hym.: Braconidae), *Eurytoma melanoneura* Walker (Hym.: Eurytomidae), *Calosota vernalis* Curtis (Hym.: Eupelmidae), *Cleonymus brevis* Boucek (Hym.: Pteromalidae, Cleonyminae), *Trigonoderus princeps* (Hym.: Pteromalidae, Pteromalinae), and *Sclerodermus* sp. (Hym.: Bethyilidae) were reared from the *Anoplophora* hosts exposed in the sentinel plants. All are known as natural enemies of xylophagous insects in Europe. In this way, six new associations involving CLB were identified, and four of these parasitoid species also accepted ALB as a host. The evaluation of some of these parasitoids is in progress at the European Biological Control Lab, Montpellier, France.