Anoplophora glabripennis (Motschulsky, 1853) - Asian longhorned beetle (Coleoptera, Cerambycidae). Chapter 14: Factsheets for 80 representative alien species

Daniel Sauvard

14.7 – *Anoplophora glabripennis* (Motschulsky, 1853) - Asian longhorned beetle (Coleoptera, Cerambycidae)

Daniel Sauvard

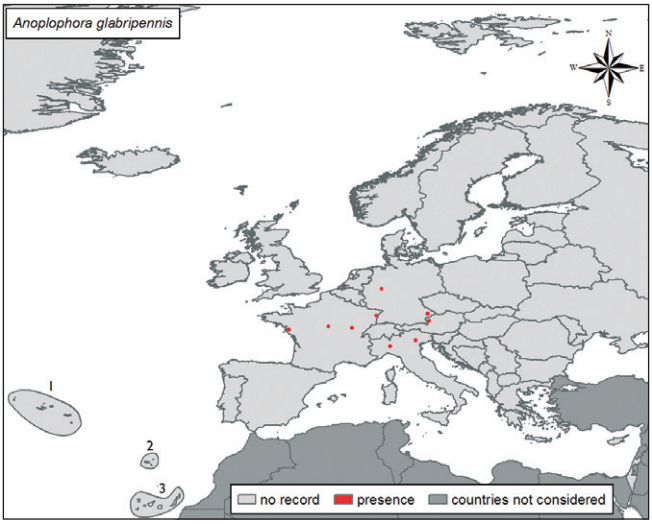
Description and biological cycle: Large, stout beetle, 20–35 mm long with jet-black body and white spotted elytra. Antennae longer than body, black with blue rings at segment base (*Photo up*). The larva is a legless grub up to 50 mm long when fully grown. It is creamy white in colour, with a chitinized brown mark on the prothorax (*Photo down*). *Xylophagous** species, feeding on a wide range of deciduous trees, mostly species with soft wood such as *Acer* or *Populus* where the larvae live inside the wood, in tree boles or large branches. Adults also eat bark on small branches. Adults fly up to 1.5 km from the emergence place. Possible human-mediated long-distance dispersal by infested wood movement or adults hitchhiking on vehicles. Eggs are laid throughout female life from spring to late summer; fecundity is variable from tens to more than a 100 eggs per female. Full development is achieved in one or two years depending on climate and oviposition date. Larvae and pupae overwinter inside wood tunnels.

Native habitat (EUNIS code): G- Broadleaved deciduous woodland; G5- Lines of trees, small anthropogenic woodlands.

Habitat occupied in invaded range (EUNIS code): G5- Lines of trees, small anthropogenic woodlands. Prefers subtropical to temperate climate; can survive in a large part of Europe up to S Sweden.

Native range: East Asia (China, Taiwan, Korea, Japan)

Credit: F. Hérard (above), Alain Roques (below)



Introduced range: USA, Canada, Austria, France, Germany, Italy (*Map*). Increasing frequency of interceptions and introductions in Europe during the last ten years. Where the species has been introduced, always in urban areas, eradication attempts have been undertaken.

Pathways: Introduced repeatedly with infested woody materials, especially wood packaging, pallets and waste materials.

Impact and management: May disturb European broadleaved ecosystems by selective tree killing or direct/indirect competition with native xylophagous insects, including protected ones. Social impact occurs because primary introduction is always in urban areas where the beetle weakens or kills trees in streets, private and public gardens. One of the most destructive cerambycid forest pests in its native range, inducing heavy damage in broadleaved stands, including poplar plantations. Larval tunnels also depreciate harvested wood. Difficult to trap; surveys generally based on visual detection of damage. Mechanical control involves destruction of infested trees by chipping or burning; trees can also be protected with fine wire mesh to prevent oviposition. Chemical control is of limited effect because the insects live deep within the tree; systemic insecticides may be tried. Biological control using natural enemies (parasitoid insects, entomopathogenic nematodes, fungi or bacteria) is under investigation but not yet used.

Selected references

Dauber D, Mitter H (2001) Das erstmalige Auftreten von *Anoplophora glabripennis* Motschulsky 1853 auf dem europaïschen Festland (Coleoptera: Cerambycidae: Lamiinae). Beiträge zur Naturkunde Oberösterreichs 10: 503–508.

Haack RA, Hérard F, Sun JH, Turgeon JJ (2010) Managing invasive populations of Asian longhorned beetle and Citrus longhorn beetle: A worldwide perspective. Annual Review of Entomology 55: 521–546.

Hérard F, Maspero M, Ramualde N, Jucker C, Colombo M, Ciampitti M, Cavagna B (2009) *Anoplophora glabripennis* - Eradication programme in Italy (April 2009). http://www.eppo.org/QUARANTINE/anoplophora_glabripennis/ANOLGL_IT.htm.