Forest Research

Schematic diagram of the life cycle of *Agrilus biguttatus* on native oak trees in Britain - from egg to adult

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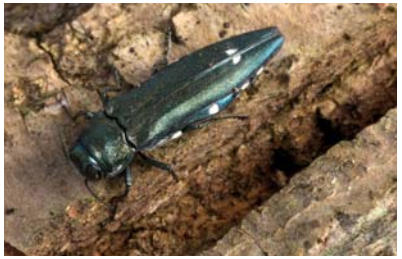
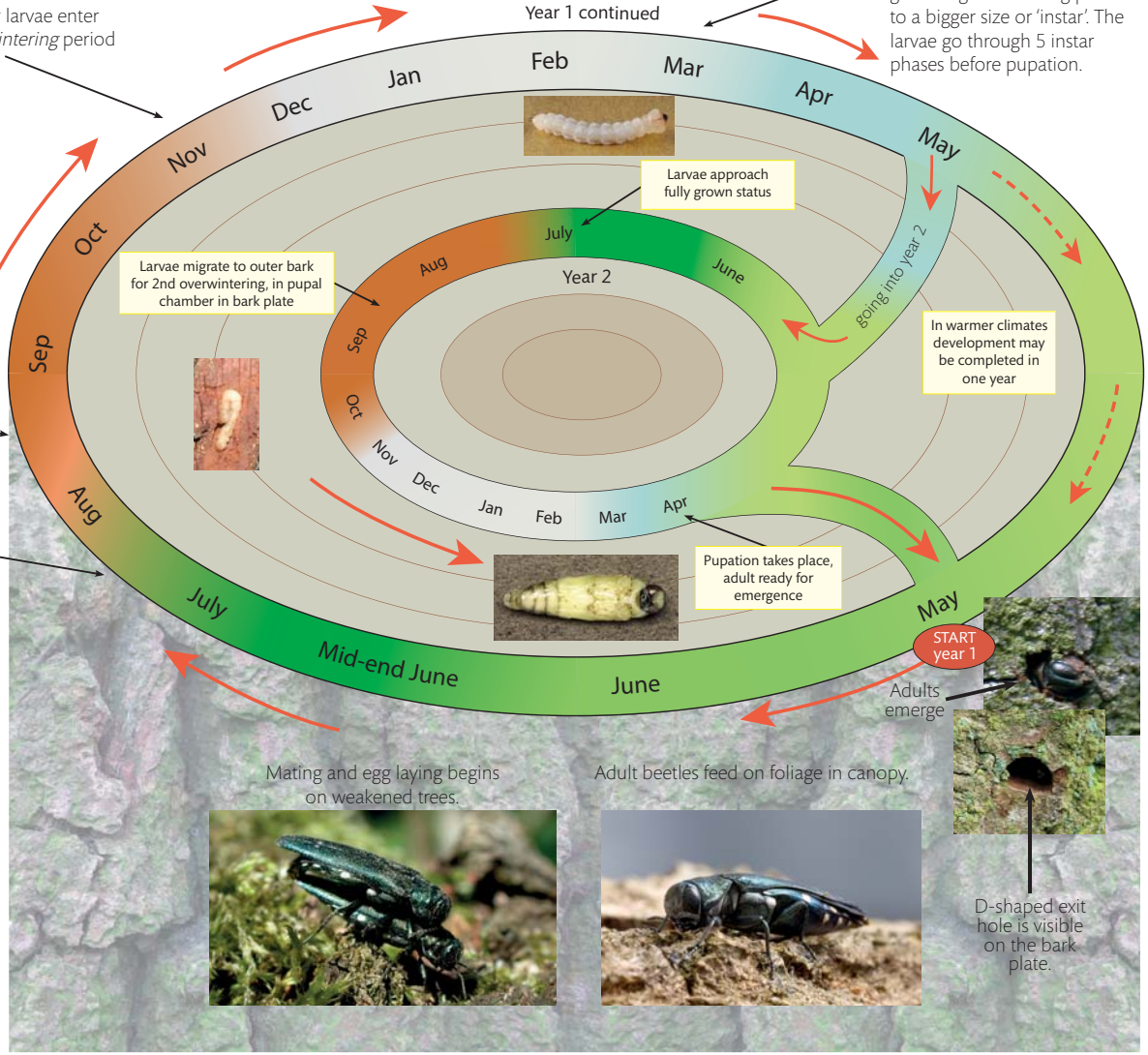
Eggs hatch and larvae feed on the cambial tissues creating sinuous galleries.

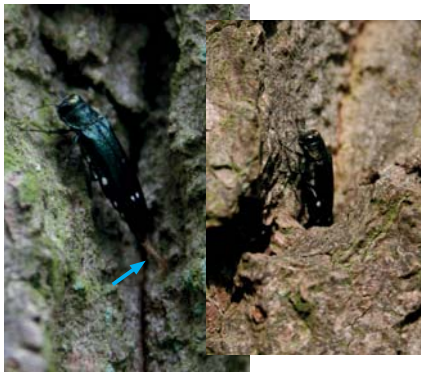
Early instar larvae enter *first overwintering* period

As temperatures warm up, larvae continue to feed and grow, in widening galleries. As larvae 'outgrow' their skin they go through a moulting phase to a bigger size or 'instar'. The larvae go through 5 instar phases before pupation.





Females lay eggs in bark crevices



Females have a long ovipositor (↑) enabling eggs to be placed deep in bark cracks.

Mating and egg laying begins on weakened trees.

Adult beetles feed on foliage in canopy.

Adults emerge

D-shaped exit hole is visible on the bark plate.

Acute oak decline (AOD) is a condition of mature native oak in Britain that appears to be increasing. Affected trees are identified by symptoms of profuse stem bleeding and significant tree mortality. Two organisms are thought to play key roles in AOD; bacteria and the buprestid beetle *Agrilus biguttatus*. This poster describes the life cycle of *Agrilus biguttatus* in Britian.

Names

Agrilus biguttatus (syn. *Agrilus pannonicus*)

Common names:
1) Two-spotted oak buprestid (Br.)
2) Oak jewel beetle (De.)
3) Oak splendor beetle (USA)

Note

Jewel beetle is the common name of the family Buprestidae.
Agrilus biguttatus is native to Britain, Europe and North Africa.

Photo credits:
Forest Research and Nathan Brown, except mating adults (TDP Invertebrate Surveyors and Consultants Ltd) and Pupa (Nikola Rahmé, buprestidae.blogspot.com)

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