

Photo guide to Tree pests and diseases

Oak



Ash



Horse chestnut



Elm



London plane



Sycamore



Beech



Alder



Oak

Oak mildew



Simon Norman

- Powdery white coating on leaves
- Caused by a fungus. First seen in the UK in 1908. Now very common. It slows down photosynthesis and growth, especially in young trees.

Oak processionary moth



Falko Seyffarth / CC BY-SA 3.0

- Large clump of caterpillars on trunk
- First seen in the UK in 2006. They feed on leaves causing serious leaf loss. Stay away – the caterpillars are covered in toxic hairs. **Use TreeAlert**

Knopper galls



Simon Norman

- Acorns with distorted shapes
- Caused by a wasp larva eating inside the acorn. First seen in the UK in the 1950s. Now very common. Affected acorns cannot germinate.

Acute oak decline



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- Trunk bleeding
 - Dieback in leaves and branches
 - D-shaped holes may be present
- Causes not known. Can kill mature trees within 5 years. **Use TreeAlert**

Ash

Cauiflower galls



Rosser1954 / CC BY-SA 3.0

- Woody mass on stalk of ash keys
- Caused by a mite. Ash keys contain the tree's seeds, and they are spread by the wind. Galls make the ash keys heavier, so they are not carried as far.

Chalara dieback



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- Blackened leaves hanging on twigs
 - Dark diamond-shaped mark
- Caused by a fungus. First seen in the UK in 2012 but spreading rapidly. Likely to kill most ash trees by 2040.

Nectria canker



AvalokiteshvaraBudha / CC BY-SA 4.0

- A dead section of branch or trunk
 - Starts as a small dip, then expands outwards in concentric rings
- Caused by a fungus. Weakens the branch so that it snaps in high winds.

Emerald ash borer



Photo taken in USA

Pacific Southwest Forest / CC BY 2.0

Not present in the UK, but might be accidentally imported with wood as it is spreading in central Europe. Burrowing larvae make tunnels with sharp bends. **Use TreeAlert**

Horse chestnut

Leaf-miner moth



Simon Norman

- Brown blotches (on leaf)
 - See through – hold leaf up to light
- Caused by the larvae of a moth eating inside the leaf. First seen in the UK in 2002.

Leaf blotch



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- Brown blotches with yellow edges
 - Not see through
- Caused by a fungus. First seen in the UK in 1935. Unsightly, as it makes the tree look scorched.

Scale insect



Donald Holbern / CC BY 2.0

- Circular woolly white spots topped with brown or orange (on trunk)
- Caused by an insect. First seen in the UK in 1964. Unsightly but not lethal. Also seen on maples and sycamore.

Bleeding canker



Simon Norman

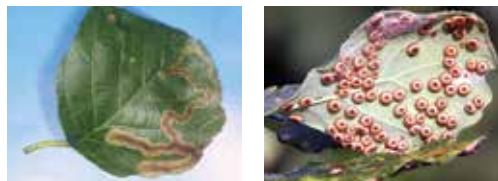
- Black oozing spots on trunk
- Caused by bacteria. First seen in the UK in early 2000s. Can kill the tree. Estimated that half of all horse chestnuts in the UK are now affected.

Photo guide to Tree pests and diseases

Pests and diseases

Pests are insects or other small animals that harm plants or trees. **Diseases** are caused by harmful microbes (pathogens) including fungi and bacteria.

Many native insects and diseases are common and widespread, and their effects are short-lived. They are an important part of the ecosystem, and are not a cause for concern.



Signs of native insects. Left: leaf-mine made by a fly. Right: plant galls made by a wasp.

However non-native pests and diseases are much more of a threat, because trees have not evolved resistance. This guide covers the more serious pests and diseases that threaten broadleaved trees.

Stopping the spread

If you find evidence of any of these pests and diseases, take care not to spread them to new places. The disease *Phytophthora* spreads easily on boots, tools and the wheels of vehicles. Don't move infected wood between sites.

A few pests and diseases are **notifiable**. This means that you must by law report any sightings.

The easiest way to make a report is through the website TreeAlert treealert.forestresearch.gov.uk

Interested in tree planting, tree care and other volunteering opportunities in your town? Visit www.treesforcities.org



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Green Recovery Challenge Fund



Department
for Environment
Food & Rural Affairs

The
National Lottery
Heritage Fund



Environment
Agency



Elm

Elm zig-zag sawfly



Lukas Large / CC BY-SA 2.0

- Small green caterpillar leaving a zig-zag shaped feeding pattern
- Caused by a sawfly. First seen in the UK in 2017 but now spreading. It can defoliate entire trees. **Use TreeAlert**

Dutch elm disease



Geographer / CC BY-SA 2.0

- Leaves going yellow and brown before autumn, then tree death
- Caused by a fungus spread by a beetle. It has killed millions of elm trees across the UK since the 1960s.

Sweet chestnut

Sweet chestnut blight



Richard Gardner (Bugwood) / CC BY-NC 3.0

- Dead and cracked bark
 - Clusters of orange raised spots
- Caused by a fungus. First seen in the UK in 2011. Usually kills trees, sometimes rapidly. **Use TreeAlert**

Oriental chestnut gall wasp

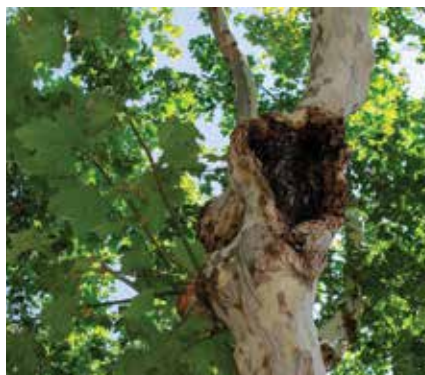


Björn S / CC BY-SA 2.0

- Galls – green or red lumps on twigs or leaves, turning brown and woody by late summer
- Caused by a wasp larva. It causes leaves to drop early. **Use TreeAlert**

Generalists

Massaria disease



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- Large lesion (often high in the tree)
- Patches of wilting or dead leaves

Caused by a fungus. First seen in the UK in 2011. Affects plane trees. Dangerously weakens large branches.

Anthrakanose of plane



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- Bud and leaf wilt

Caused by a fungus. Affects plane and sycamore trees. Although not serious by itself, it is more damaging in combination with Massaria.

Asian longhorn beetle & Citrus longhorn beetle



Daniel Krook; Yao Lishen CC BY-NC-ND 3.0

- Two similar shiny black beetles with long white striped antennae
- Not in UK but has been accidentally imported. An ALB outbreak in Kent was eradicated in 2019. **Use TreeAlert**

Bacterial canker



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- Sunken patches of dead bark
 - Small holes in leaves ('shot hole')
- Caused by bacteria. Affects cherry and plum trees. Sometimes gummy liquid oozes from these cankers.

Generalists

Phytophthora

Phytophthora is a genus of extremely destructive plant pathogens. They are fungus-like organisms called oomycetes (or water moulds).

They can infest a wide range of plants, including trees. One of the most damaging species causes potato blight.

Significant *Phytophthora* species affecting trees in Britain are:

- *Phytophthora ramorum*
- *Phytophthora kernoviae*
- *Phytophthora alni*

Phytophthora kernoviae



Forestry Commission / OGL 1.0

- Black oozing spots and dead bark
- Infests beech and oak trees. Bilberry and rhododendron are susceptible, and can pass on the disease. First seen in the UK in 2003. **Use TreeAlert**

Phytophthora ramorum



ScotGov SASA / CC BY 2.0

- Black oozing spots on trunk
- Infests oak trees, as well as larch trees and rhododendron. First seen in the UK in 2002. Causes Sudden Oak Death. **Use TreeAlert**

Phytophthora alni



Thomas Jung (Bugwood) / CC BY-NC 3.0

- Leaves small, sparse and yellow
 - Dead branches in the crown
 - Bleeding at base of tree
- Infests alder trees. First seen in the UK in 1993. **Use TreeAlert**