BACK FROM THE BRINK

SPECIES INFORMATION GUIDE

Oak polypore

Buglossoporus quercinus (syn. Piptoporus quercinus)

The Oak polypore fruitbody can be up to 15cm wide and long, and between 1cm and 5cm thick. They form a typical 'bracket' shape, but are quite unlike many of the harder, woody brackets that may be found on oak. These fruitbodies are fleshy and flexible when young, eventually drying to become more brittle, but still light.

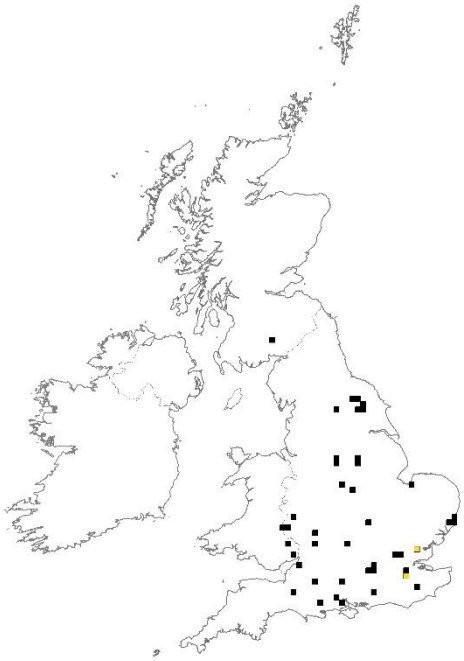
The tops of young specimens are whitish at first, maturing through yellow into brown, and sometimes cracked. The underside is white, with very small round or slightly angular pores.

(Note: There is another soft bracket that can be found on oak. Beefsteak fungus (*Fistulina hepatica)* can look very similar when the specimen is high up a trunk, but that species is much redder throughout when examined close up).

It is a NERC Act Section 41 priority species; is listed on Schedule 8 of the Wildlife and Countryside Act 1981; and appeared on the national Red List in 1992 (EN), and 2015 (VU).

Distribution

The majority of confirmed records are broadly spread but limited to the south of England with records thinning out towards the Midlands.



Distribution of the Oak polypore in the United Kingdom
Black: post -1990 Yellow: pre -1990

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Windsor Great Park is a nationally important site for this species, with the majority of the UK population being recorded here over a long period of time.

Habitat

Oak polypore is only found on the living or dead trunks of standing or fallen oak in old deciduous woodland and parkland. In the UK almost all records of this species were associated with English oak. It strongly favours ancient trees but can also be found on suitably sized and damaged mature trees of enough volume.

Veteran oak in parkland

Life cycle

While the exact mechanism of inoculation is unclear, spores of Oak polypore need access to the 'dead' heartwood of veteran oak to develop. Once established, the fungus releases chemicals and enzymes that are able to 'digest' the cellulose, leaving the lignin in place. The observable effect of this is a dry wood that is usually broken up into small cuboid pieces, which is referred to as brown rot.

Heartwood rotting fungi like this are extremely beneficial to the longevity of veteran and ancient trees as they remove the core of the tree, it becomes lighter and more flexible as a hollow cylinder.

When conditions are right, this species will produce visible fruitbodies from exposed areas of heartwood. These spore-bearing structures do not always appear annually, and there may be long gaps between fruiting years while the fungus itself persists within the substrate.

Oak polypore is capable of producing both asexual and sexual spores, although the majority of these spores will fall close to the source. The asexual spores may be of particular significance with this species as their thick walls make them hardier, a feature that may be necessary to survive on the harsh conditions of dry, exposed heartwood high up in a tree.

Reasons for decline

- Primarily habitat loss - the number of suitable ancient oak in the UK is in constant decline, and many of those that remain are fragmented, often over great distances. This severely hinders Oak polypore's ability to colonise new host trees.
- Dwindling number of potential host trees is due to a number of factors, not limited to: removal of veteran trees for health and safety; removal of bulky deadwood; introduced diseases and pathogens that kill trees before they reach maturity; and historical woodland/parkland management failing to recruit new generations of mature trees through planting or regeneration.

Habitat management

Management plans should include typical methods for preserving existing veteran and ancient oak trees within broadleaf woodland:

- Leave dead limbs on trees and standing dead trees where they are.
- Divert paths away from potentially dangerous trees rather than fell them.

- When mature trees must be reduced or felled, larger woody debris (trunks, stumps and thick branches) should be left in situ.
- Ensure woodland regeneration is occurring, protecting young trees from browsing where necessary.
- Help develop mature oak using methods like halo felling around selected trees.
- Reintroduce pollarding where this type of management has lapsed.
- The manual inoculation of locally sourced specimens into suitable host trees may be an important conservation tool in the future.

Survey methods

This species does not reliably produce visible fruitbodies during each year of its fertile stage (see Life Cycle). However, keeping annual records of visual checks of each potential tree host at regular intervals during July and August each year remains the simplest and most reliable method for surveying this easy-to-identify species.

When fruitbodies are not visible, core samples taken from dead and living trees can provide genetic evidence of the presence of this fungus, however only positive results would be conclusive. This is because Oak polypore is a poor competitor against other wood-rotting fungi, and so it might find itself restricted to a single part of the woody substrate that is missed by a core sample.

Further Reading:

http://publications.naturalengland.org.uk/publication/209336

https://www.sciencedirect.com/science/article/abs/pii/S1754504809000865

https://arboriculture.wordpress.com/2016/01/24/fungus-spotlight-piptoporus-quercinus-oak-polypore/

The Back from the Brink Ancients of the Future project is led by Buglife in partnership with Plantlife and the Bat Conservation Trust.