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Fungi and Veteran Trees in the Planning System

Sample slidedeck

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The following slides have been extracted from lectures to be presented by JFL at this year's premier CPD event, FLAC. The Seminar, 2025.

Contents

Why we need to identify fungi in planning surveys

- Correct attribution of tree quality grade
- Safety assessment
- Retention span
- Protected species issues
- Habitat/ biodiversity quality assessment
- Testing objector assertions
- Evidence gathering for Appeal

The effect of the Brislington Meadows decision

- Emphasis placed on exceptionality: a de facto sense-check for potential veteran trees
- Size now to be addressed regardless of condition or context: size is a stand-alone attribute
- Relativised to other trees of the same species
- Use Lonsdale chart to check
- Inspector's erroneous reliance on 4-out-of-5 method in BNG3.1 can be ignored at the clear direction of DEFRA
- **To identify trees meeting the Annex 2 definition use RAVEN 2**

Looking back over all Appeal decisions where identification of veteran trees was an issue, they all agree on one point:

No Inspector has accepted an objector claim that a tree is a veteran
if the Appellant has said that it is not!

What governs its occurrence?

Some lichens are generalists, while others seem to require very specific microenvironmental conditions (humidity, light/ shade, nutrient levels and pH)

The climate of the British Isles is sufficiently varied so that lichen species flourish here that are also associated with both arctic and mediterranean geographies

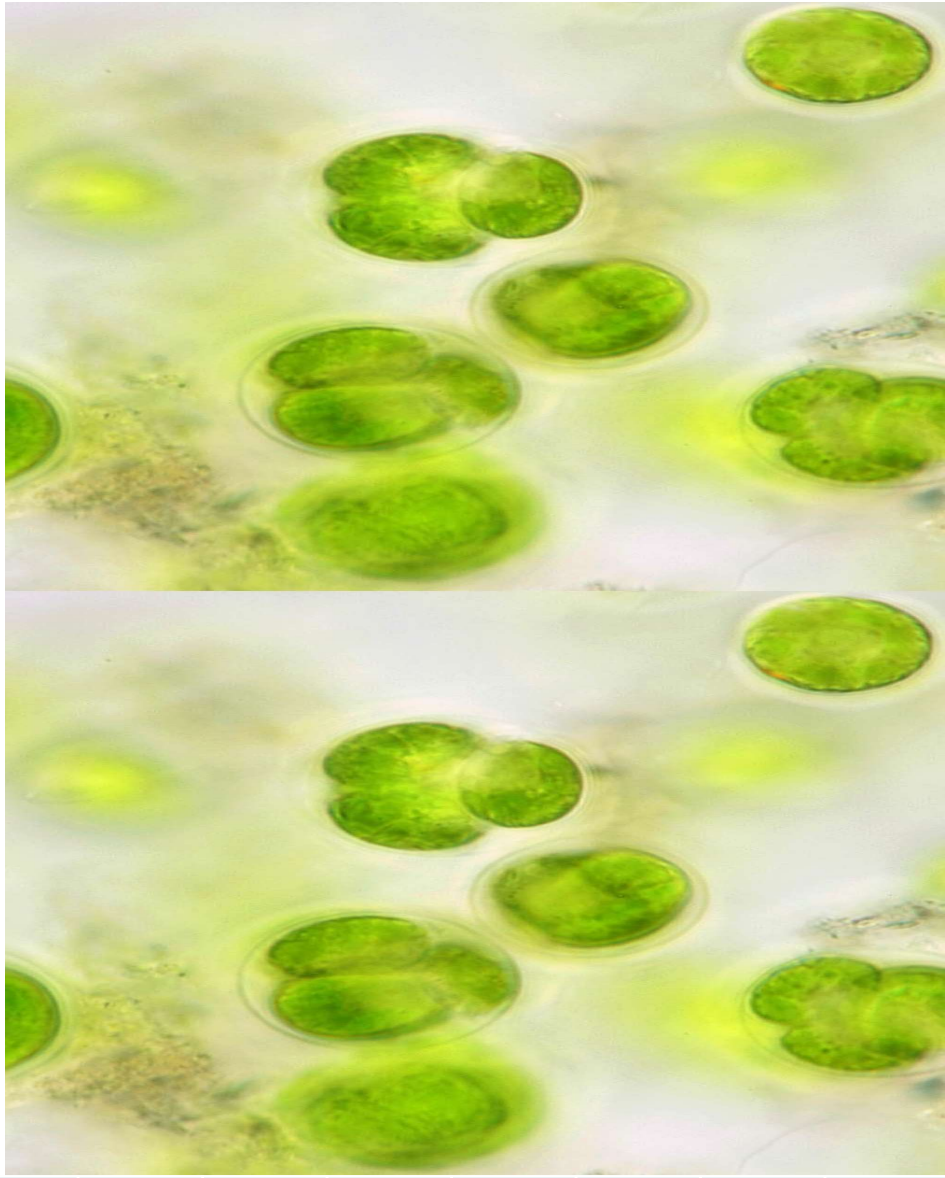
Some lichens are specific to particular rock types, whilst others thrive in locations affected by salt-spray. Bark moisture levels and pH vary with tree species and are key factors in lichen/ host preference

However, pH variation due to atmospheric pollution, as well as height above ground, can give rise to different lichen colonies within the same tree

The most important factor in the occurrence of a significant lichen colony/ assemblage is environmental stability

Well-developed lichen communities in woodland are markers of long-term habitat continuity… **ancient woodland indicator species**

It is this environmental stability that links certain species of lichen to AVT



Tree sp.	Larch	Pine	Birch	Oak	Rowan	Alder	Beech	Lime	Ash	Elder	Syca.	Field maple	Apple	Poplar	Willow	Elm
Bark pH	**3.2**		**3.8-5.8**		**5.2-6.6**					**4.7-7.1**						

Sarcodontia crocea Orchard Tooth Fungus

S.crocea is a wood decay species found in traditional orchards

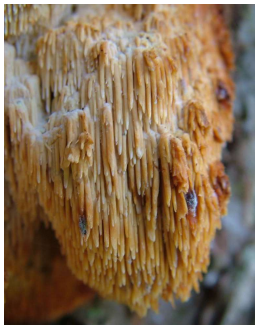
It is restricted to Rosaceous tree species, and probably to *Pomoideae*

It has a wide geographical range but is estimated to have lost 30% of its total population in the last 30 years due to habitat loss

On the *Global Fungal Red List*

In the UK it is known at only 50 sites

It is not in Table 4 but is a UK BAP species



Survey methodology for saproxylic invertebrates

- Hang vane interception traps in areas of old growth/ veteran trees
- Place traps May to September
- Visit site every two weeks to clear out collecting jars, 8-10 visits total
- Water pools could be trawled with nets, but species identification is very difficult in larval stages
- Catalogue recovered species
- Report rare finds to the County specialist

The Two-Tigers problem

A zoo has two tigers. One is a common Bengal tiger, the other is a Guatemalan Sabretooth, one of only ten in the world

The zoo owner has a Duty of Care to prevent the tigers from eating visitors to the zoo. Does the Duty reduce for the second tiger because of its rarity?

In terms of risk assessment, this relates to the risk, **not to the merits of the risky thing**

FIRST assess the risk, THEN decide what resources to direct to its control

Quality and value neither changes the risk, nor removes the need to do something about the risk…

…It might, of course, change the preferred control measure

Behaviour of non-defective trees under wind load

The structure of the foliated tree adapts to wind load in three specific ways:

1. Aerodynamic adaptation of the leaves, progressively through:
- Fluttering
- Flattening
- Curving

2. Drag-induced re-profiling of the crown (strategy of flexibility)
- Leaf-drag 'tows' petiole, twig, branch towards parallelism with the wind
- Efficiency increases with windspeed!

3. Mass-damping by nonharmonic branch motion:
- Increasing motion of the individual branches
- Occurs out of synch to avoid harmonic resonance
- Disunified transfer of load into the stem and roots avoids force accumulation

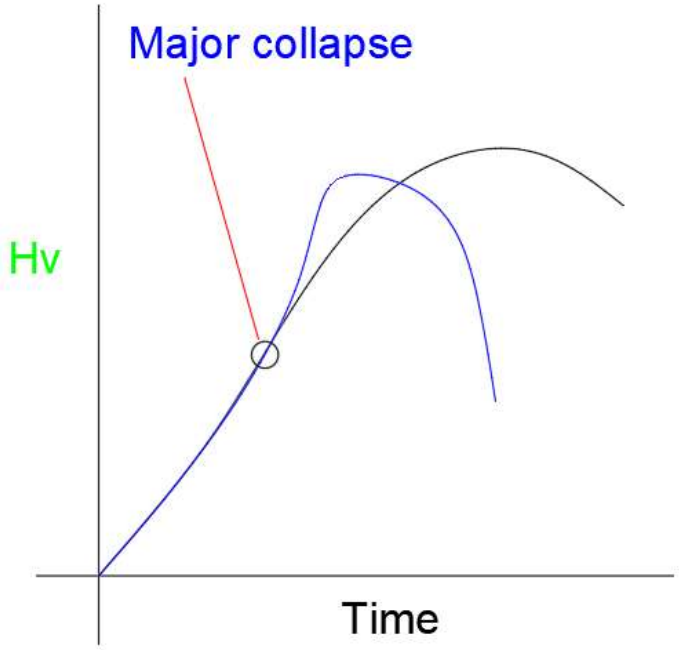
Beyond and within these mechanisms, storm damage survival occurs through progressive collapse, starting with the most easily replaced parts of the tree: leaf, twig, minor branch, major branch

Non-survivable wind-loads overcome all of these mechanisms, with near-uniform, whole-tree oscillation occurring immediately prior to failure

The conceptual effect of a major collapse on habitat value (Hv) over time can be graphed. In this example are two trees with severe stem decay:
i) The blue tree suffers a major failure and initially its habitat provision accelerates*, before declining as the tree dies and decomposes
ii) The black tree is subject to protective crown reduction and lives on for many decades. Its habitat value eventually exceeds that attained by the blue tree, and is subject to a much more gradual time

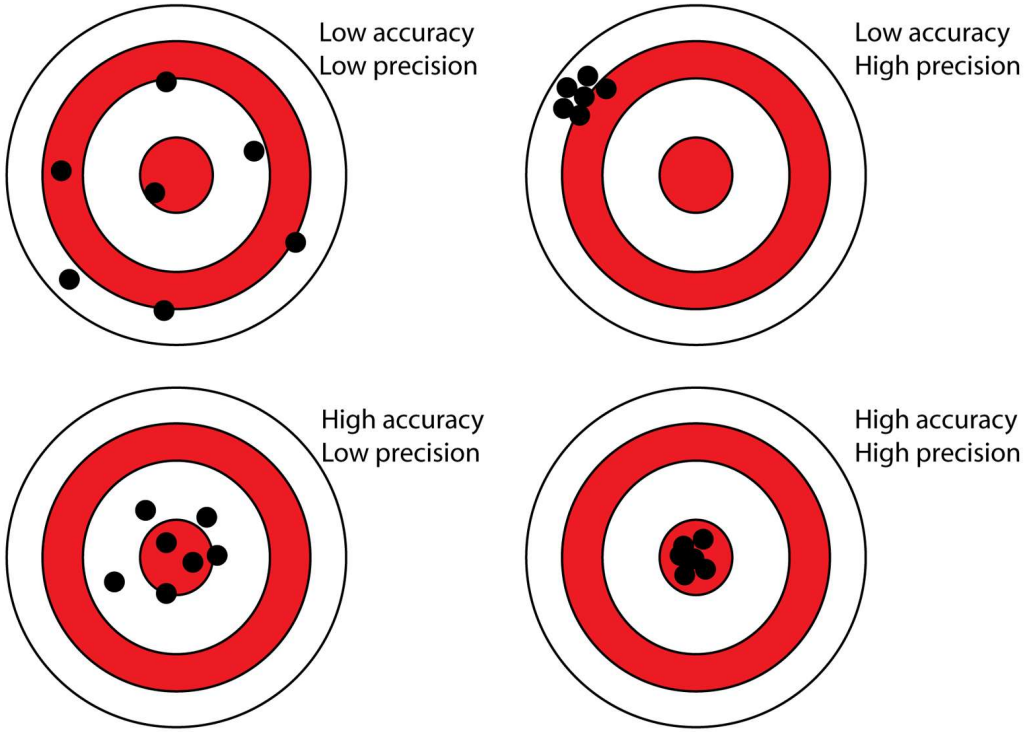
Where major collapse can be avoided the area under the curve is greater (extra habitat value!) and habitat decline is shallower
This is the beneficial habitat potential of crown management!

* *Hence artificial collapse generation ('veteranisation') potentially provides an answer to a successional gap!*



Wessolly & Erb have confused Accuracy and Precision

The realities of the properties of wood in the living tree, and the ever-changing loads to which trees are subjected by the wind, utterly prevent computation of modulus of elasticity to an **accuracy** sufficient for fracture/ stability testing by applied static loads, even where such loads can be applied and measured with adequate **precision**



Types of lignin

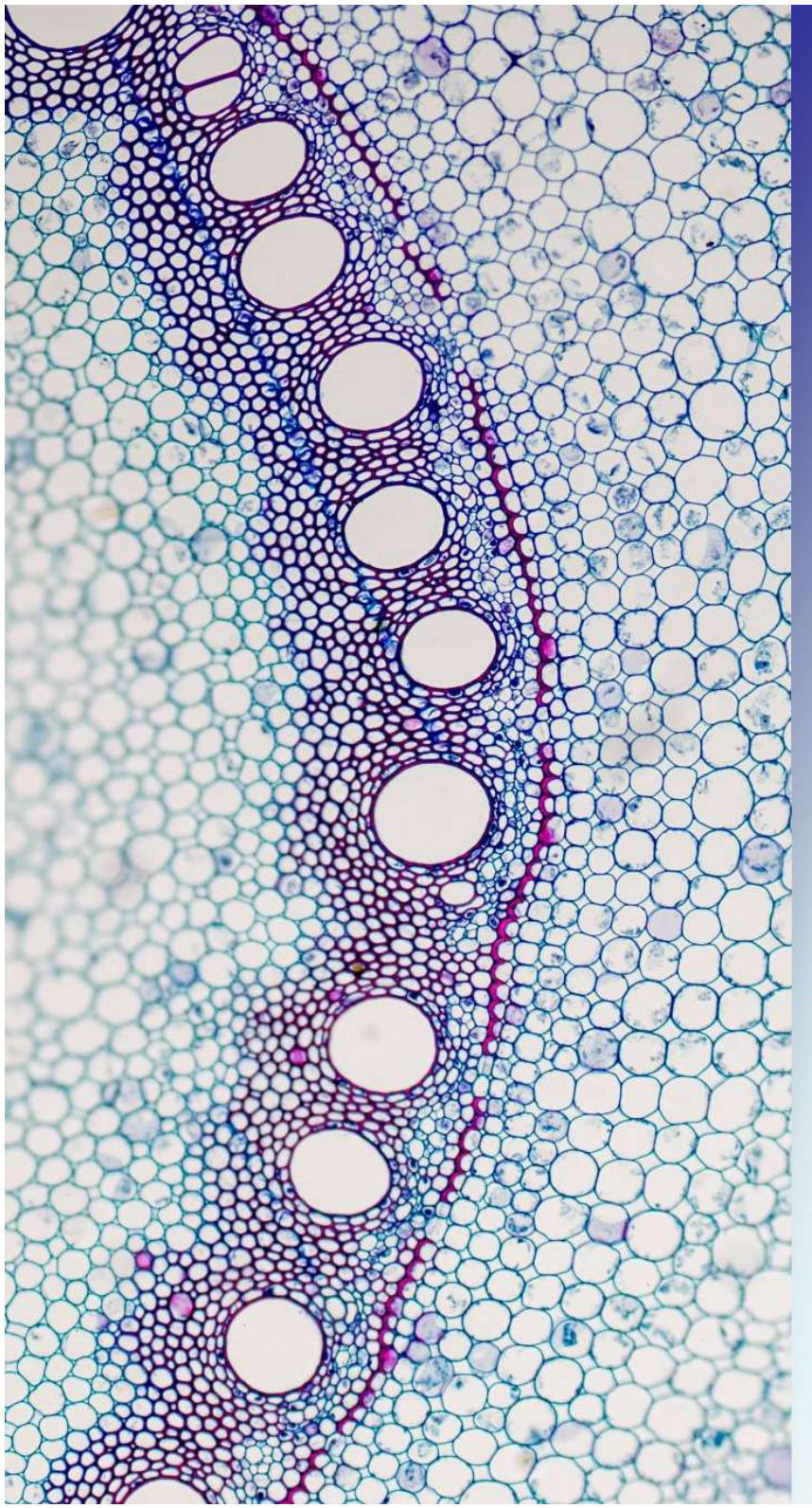
Lignin comprises <u>two</u> principal types:

1. Guaiacyl lignin =>
Gymnospermae =>
Compression support

2. Guaiacyl-syringyl lignin =>
Angiospermae =>
Tension support

In Angiosperms, whilst the *ratio* by mass of the lignin components Guaiacyl to Syringyl is roughly equal…

Its *distribution* within the wood varies with the species and hydrodynamic structure of the tree



Background

- Original arb consultant had not identified presence of several veteran trees
- Challenged by LPA tree officer
- PP refused; appealed
- Planning consultant recommended JFL should be instructed to undertake a review: three veteran trees identified
- Minor layout adjustments required to safeguard their buffer zones; achieved under the *Wheatcroft* principle
- Site comprised two fields: northern field would host the development; southern field would be POS
- JFL advised parkland style planting in southern field, to recreate historic typology (which all other team members had missed…)
- All three veteran trees have significant decay; two host notable fungi: *Ganoderma lucidum* & *Ganoderma resinaceum*
- The largest veteran tree (1730mm stem dia.) is at risk of collapse
- Significant benefit arises from preservation of veteran trees, including as habitat for notable fungi
- JFL evidence was accepted by LPA

Prosecutorial silos

The statutory interplay between the two regimes gives rise to a segregated prosecutorial system, whereby an authority holding a TPO (or CA) has no remedy even where:

i. Trees subject to a TPO are felled under a FL granted without the required declaration of TPO/ CA protection

ii. Trees are felled under a Licence in such a way as to breach its terms, e.g. the Licence authorises a 30% thin but a clearfell is undertaken instead

Why? Because:

"There is no navigable route from an offence under the Forestry Act to a prosecution under the Planning Acts"

Jonathan Ashley Norman KC, in Voir Dire before HH Judge Moore, 18 October 2021

R (Swale Borough Council) v Joseph Robb