

The Starfish

The magazine of Malvern Transformers

Issue 105— 29th November 2022

Our Creativity Ray

Amazing Ancient Trees

This Week

The Oak Tree

Robin Hood

Wildlife

Historic tree



Quercus robur (the English or European oak) has an important part to play, both in the *ecology* and in the culture of the British Isles. As well as growing in Europe, where it is native, it has been cultivated in Australia and the USA.

There are about 500 other species of oak around the northern hemisphere, some of which are evergreen and some *deciduous*.

Many successive European tribes and groups of people have *venerated* or worshipped the oak and associated it with their supreme god, who also had power over rain, thunder, and lightning. They would have noticed no doubt that oak trees are more prone to lightning strikes than many other trees because of their high water content and height.

Rosemary



By an ancient oak near home

Click on the Starfish!



If you see a starfish click on it for a link to a short YouTube clip

Word Alert!



Words in bold are explained further in the Glossary on page 12.

TEDEd

If you see the **TEDEd** symbol, click on it for extension material on a particular topic



Back issues of *The Starfish* are available on Padlet—click on this Padlet symbol

did? YOU! know



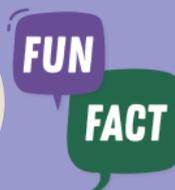
In wartime, acorns were often ground down to make fake coffee as the real thing was unavailable.

did? YOU! know



A singer called 'Beans on Toast' composed a song about the Major Oak when he feared it might be damaged by fracking.

Things to look out for!



An ancient tree

In days gone by, large areas of Northern Europe would have been covered by woods, oak trees being the dominant species. These woodlands, known as the wild woods, have now largely vanished, but some solitary oaks do remain. Their survival in the UK is partly due to the fact that oak trees were used to make boundaries between shires and parishes.



How to tell the age of a tree!

Video

Individual oak trees are reputed to have lived between 1000 and 2000 years, but measurement by circumference of trunk is not precise.



How to recognise an ancient or veteran tree

Video

Strangely, the oldest known trees are the ones which have been *pollarded* (cutting off the trunk about 8 feet up when the tree is 20 years of age, and at regular intervals after that). This was done to provide a constant supply of small branches for timber, but resulted in the tree being able to survive and grow long after the original trunk had died and become hollow.



Oak Tree Pollarding
Timelapse

Video

The "Chêne de Lys", an ancient oak tree, estimated at 600 years old, leans into the winds that blow down from the Pyrenees. : Flickr.

A sacred tree

The earliest evidence we have of oak trees being of religious significance to our ancestors is a tree temple dating back to the *Bronze Age* (4000 years ago) which consists of a large uprooted oak tree surrounded in 54 oak trunks (on the North Norfolk coast).

Oak trees were also very important to the Celts. They would use an oak log, called the Yule log, to burn at the *Winter Solstice* in the hope of drawing back the sun to warm the earth.



The Pagan Beginnings of the Yule Cake

did you know?



The word Druid means 'Oak man' and derives from druz, the Greek word for oak.

Celtic priests (Druids) revered the tree and believed that it embodied the strength, power, and energy of their God Esus. Their sacrifices and celebrations were held in sacred oak groves. Even the mistletoe, which grows on the oak branches as a *parasite*, was regarded as sacred and thought to be a guardian of the tree.



Facts About Mistletoe Plants

Germanic tribes, Norse people, Romans and Greeks also revered the tree.



Minecraft - The Finding of the Sacred Oak

The tree, reportedly 300 to 500-plus years old, is a chinkapin (or yellow) oak (*Quercus muehlenbergii*).

Locals know it as the Sacred Oak. : Flickr

A strong tree



Video

Using Live Oak Trees
as a Blueprint for
Surviving Hurricanes

The English oak is a strong tree in two different ways.

The Living Tree

The living tree is particularly rugged and hardy and is able to withstand attacks by pests and diseases as well as extreme temperatures and drought. The tree's *resilience* to both wind and drought is due largely to its amazing root system.

For the first few years of its life, the oak sends a large tap root into the soil, but other *lateral* roots soon develop and stabilise the tree, as well as drawing up around 90 litres of water a day.

The timber

Oak timber is extremely strong and durable and has been used for thousands of years for construction projects that are intended to last. In the reign of Elizabeth I. so many oaks had been felled for building that a law had to be passed to protect them for future use. They also planted many more trees in the Royal forests.



Video

Characteristics of
Oak Wood

The biodiversity hero

Oaks, and particularly ancient oaks (over 400 years old) support more life than any other native UK tree. They are home to 2300 wildlife species.

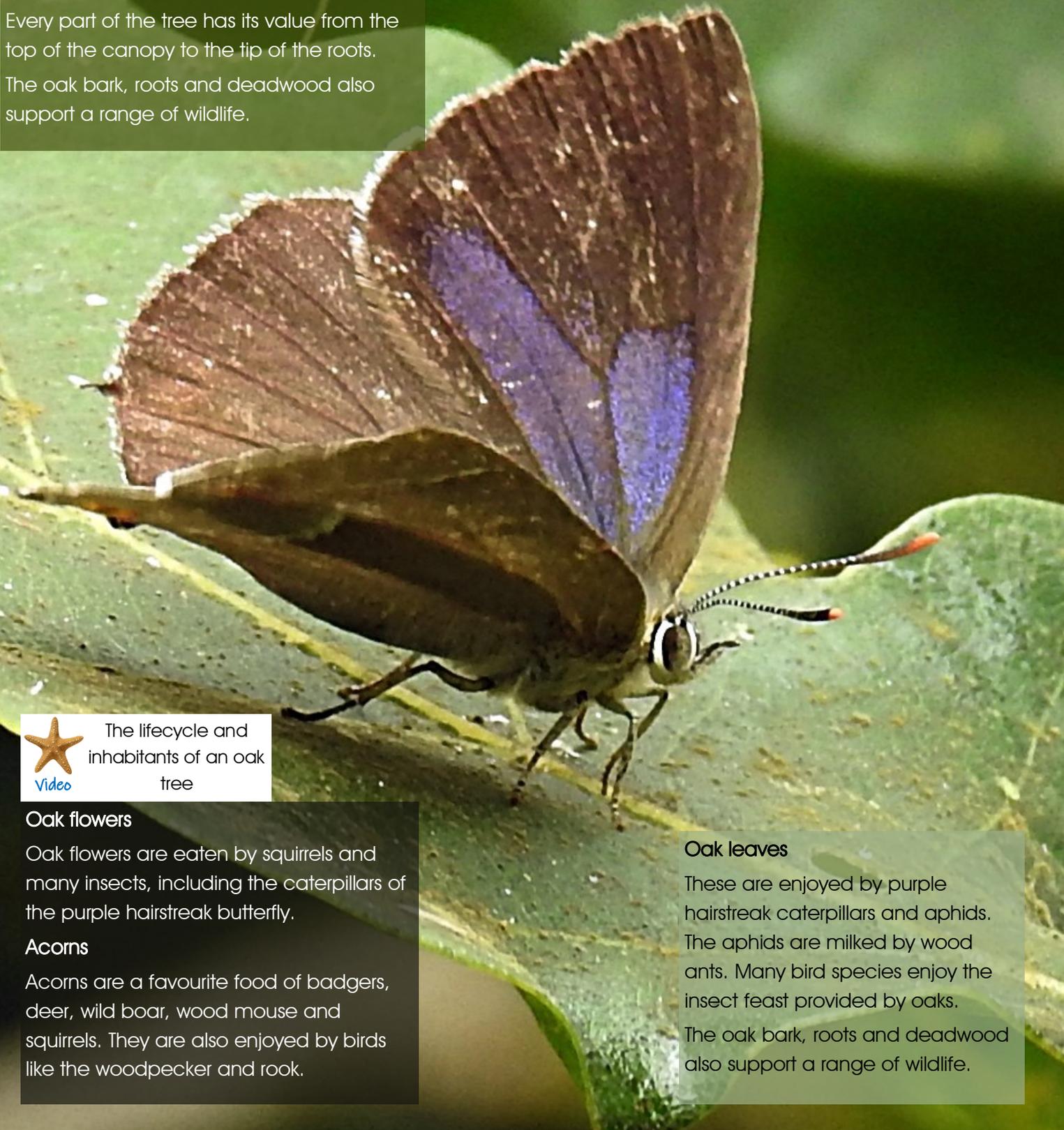
Every part of the tree has its value from the top of the canopy to the tip of the roots.

The oak bark, roots and deadwood also support a range of wildlife.



Oak Tree and Wasp
Eggs

[Video](#)



The lifecycle and
inhabitants of an oak
tree

[Video](#)

Oak flowers

Oak flowers are eaten by squirrels and many insects, including the caterpillars of the purple hairstreak butterfly.

Acorns

Acorns are a favourite food of badgers, deer, wild boar, wood mouse and squirrels. They are also enjoyed by birds like the woodpecker and rook.

Oak leaves

These are enjoyed by purple hairstreak caterpillars and aphids. The aphids are milked by wood ants. Many bird species enjoy the insect feast provided by oaks.

The oak bark, roots and deadwood also support a range of wildlife.

The squirrel manipulator

In nature, it is not uncommon to find mutual arrangements between two species where each gain, even if one gains more than the other.

The squirrel-oak tree relationship is just such an arrangement.

The oak tree relies on squirrels to bury acorns away from the mother tree (the squirrel is actually storing them away to eat during the winter months, but doesn't always remember where his/her caches are).



How Oak Trees
Manipulate Squirrels



However, and this is where the *manipulation* comes in, the oak tree doesn't produce an equal number of acorns every year. Every five or so years it produces a bumper crop (masting). What happens in these years is that the squirrels binge but also go all out to bury as many acorns as possible without any hope of eating them. Because they have the

extra food, they produce more babies, but the following year, when there are fewer acorns, the squirrel population declines. If the oak tree produced equal numbers of acorns each year, the squirrels population would increase and there wouldn't be any spare acorns to bury.

The cork oak (quercus suber)

The cork oak is a medium sized evergreen oak tree native to SW Europe and NW Africa.

Cork oaks are home to a multitude of animal and plant species including the endangered Iberian lynx and the Iberian Eagle.

As well as encouraging biodiversity, the cork oak produces an extremely sustainable crop—cork.

Cork has all kinds of uses because of its lightness insulating properties, flexibility and *impermeability* to gases and water.



How wine corks are made

Video

The cork is part of the bark which is harvested from cork trees every nine years or so without harming the tree (in fact, harvesting the bark helps the tree to increase its CO₂ absorption). Unfortunately, it is now less common to see cork forests, as plastic is often used instead of cork for bottle stoppers.



Cork - The most sustainable material in the world

Video

Bark of a cork oak, Lyndhurst, New Forest, Hants Wikimedia Commons

Historic oaks

Particular ancient oaks have played an important role in the history of the British Isles.

The Royal Oak (Worcestershire)

The Royal Oak, which features on the inn signs of countless public houses, is famous for having acted as a hiding place for Charles II when he was being hunted down by the *Roundheads* following the Battle of Worcester in 1651. The son of this tree can still be found in the grounds of Boscobel House and is believed to be two or 300 years old.



History of The Royal Oak

The Wilberforce Oak (Keston)

At the beginning of the 18th century, European slave traders were still taking Africans prisoner and carrying them by boat to sell in the Americas as slaves. The British politician William Wilberforce declared his intention to abolish the slave trade while sitting under the now dead oak tree with his friend William Pitt (who later became Prime Minister).



William Wilberforce:
Man Who Helped to
End Slavery

Wilberforce Oak: The remains of an oak tree where one William Wilberforce discussed the abolition of slavery with Pitt the Younger. Flickr



Robin Hood and his merry men

Not only are oak trees embedded in the history of our country, they are also important in its legends. The major oak in Sherwood Forest in Nottinghamshire is probably the most well known ancient oak in Britain.

It is said that the famous outlaw Robin Hood, known for stealing from the rich to give to the poor, met beneath the branches of the tree with his merry men in the 13th century.

It is difficult to verify the age of the tree, but if, as the legend suggests, it was well established in the 13th century, it would now be around 1000 years old.

Should the major oak finally die, it will live on in the 260 saplings grown from its acorns in Dorset in 2003.



Robin Hood - Ambush Scene



The Major Oak

Image: Major Oak in Sherwood Forest.
Wikimedia Commons

Last week ...

we learnt about the Fig tree



We made fruit bat hats



We made stuffed figs



A chocolate-covered stuffed fig



A quote from Buddha

GLOSSARY

Bronze age: The Bronze Age is a historic period, lasting approximately from 3300 BC to 1200 BC

deciduous: shedding its leaves annually.

ecology: the study of the relationships between living organisms, including humans, and their physical environment.

impermeable: not allowing fluid to pass through

lateral roots: Lateral roots extend horizontally from the primary root

manipulate: control or influence (a person or situation) cleverly or unscrupulously

parasite: an organism that lives in or on an organism of another species (its host) and benefits by deriving

nutrients at the other's expense.

pollard: cut off the top and branches of (a tree) to encourage new growth at the top

resilience: the capacity to recover quickly from difficulties; toughness

Roundhead: Roundheads were the supporters of the Parliament of England during the English Civil War (1642–1651).

venerate: to honor or have great respect for a person or thing

winter solstice: The winter solstice, also called the hibernal solstice, occurs when either of Earth's poles reaches its maximum tilt away from the Sun. The time of the shortest day, about 22 December in the northern hemisphere and 21 June in the southern hemisphere.



did?
YOU!
know



Oak Barrels

Barrels made of oak are used to store wines, sherry and whiskey. The oak wood contributes to the colour, taste and aroma of the contents. Oak wood chips are also used for smoking fish, meat and cheeses.

Next Issue

Number 106

The Ginkgo Tree

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