

Hello Trees Resource Sheet

What to look for outdoors in Summer

Pussy willow and the Purple Emperor

You have to be very lucky to see Purple Emperor butterflies.



It isn't easy. You need a hot summer day, patience, a nearby oak tree and some fresh dung or dog poo.

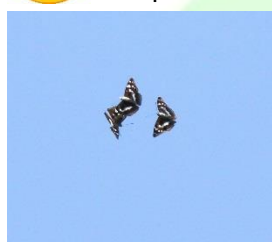
Male Purple Emperors love to perch in oak trees but it is hard to see them because they like the top of the tree the best.



The top of the tree is called the crown - and they are emperors after all!



Male Purple Emperor butterfly



Male Purple Emperor butterflies vie for best females

The male butterflies fight each other for the best sunny spots and to get to mate with the best females.



Some people say their fights are like the 'dog fights' between Spitfire and Messerschmitt aeroplanes in the Battle of Britain.



But that is all happening at the top of the tree. What we need is a way to tempt them down on to the ground.



We know that Purple Emperor male butterflies like to suck nutritious minerals from moist dung.



In a park, you might be lucky enough to have a dog do a poo near an oak tree and see a Purple Emperor male swoop down to feed on it. Purple Emperors seem to like fox scats best, then dog poo, then horse dung.



One day you might like to do a scientific investigation and write a paper on Purple Emperor poo preferences!



Male and female Purple Emperor butterflies have different colouring on their open wings.

Here is a female Purple Emperor with her wings open.

Female Purple Emperor



Female Purple Emperor butterfly



Male Purple Emperor butterfly

Now, here are female and male Purple Emperor butterflies showing the underside of their wings.



Can you see any differences? I can't!

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A butterfly scientist is called a '**lepidopterist**'.



Lepidopterists call the Purple Emperor *Apatura iris*. They say a-pa-TOO-ruh EYE-riss.



Sallow tree

When a female Purple Emperor butterfly has mated with a male, she needs to find the right leaves on which to lay her eggs. The right leaves are those of a willow, sometimes called a goat willow or a [pussy willow](#).



The scientific name is *Salix caprea*.



Purple Emperor egg

The female dives into (lepidopterists, say 'strikes') the tree and lays a single egg on the upperside of a leaf that is half in the sun. The egg is tiny, round and bright green. Soon it gets a purple ring at the bottom.



Sallow leaves



Purple Emperor caterpillar in Autumn

In about 9-days' time it hatches. The caterpillar that emerges eats its eggshell then moves to the tip of its leaf.

It feeds during the day, eating the leaf on either side. After it has grown too large for its skin, it sheds it and emerges with two green horns.



Purple Emperor caterpillar ready to hibernate

After the next time it sheds its skin, it gradually turns brown and makes its way on to a twig next to a leaf bud. Here it makes a silk pad which it holds on to while it passes the winter.

As the willow bud starts to swell in mid April, the caterpillar 'awakes' and feeds first on leaf buds and then on leaves.



Purple Emperor caterpillar in Spring

It chooses one leaf for its resting place – its bedroom, you could say – and from there goes out to feed on other leaves, always returning to its base after feeding. Now the caterpillar has yellow stripes like the veins of the willow leaf. This is good camouflage.

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Purple Emperor
chrysalis

Around mid June, the caterpillar finds a good leaf and again makes a silk pad from which it will hang, and then changes its skin for the last time, as it takes on a new form – a pale green chrysalis. It looks like a willow leaf.

An amazing transformation occurs within the chrysalis and, after only a few weeks, what was a humble caterpillar has changed into a glorious butterfly.



Look for eggs in April, caterpillars from mid April to late June (remember they change colour and form), chrysalises from mid June to mid July, and butterflies in July.



Don't forget to log your sightings at the Woodland Trust Nature's Calendar, <http://www.naturescalendar.org.uk/>



You will sometimes see the words that scientists use for the stages of an insect's life cycle:

- an egg is called an '**ovum**', plural, '**ova**';
- a caterpillar is called a '**larva**', plural '**larvae**';
- while a caterpillar is changing into a butterfly it is called a '**chrysalis**', plural '**chrysalises**' or '**chrysalides**'. For other insects, this stage is a '**pupa**', plural '**pupae**'.
- a butterfly, the winged stage, is called an '**imago**', plural '**imagines**'.



All the photographs of butterflies, egg and larvae shown here have been supplied by **UK Butterflies**.

For loads more of their wonderful photographs and much more information, see <http://www.ukbutterflies.co.uk/species.php?species=iris>



For more about trees, fun things to look for and do indoors and outdoors, and about Hello Trees books, see the [Hello Trees website](#).

Outdoor discovery
is a walk in the park
with "Hello Trees"
books