

Hello Trees Resource Sheet

What to look for outdoors in March

Blackthorn blossom: how bewildering!



Have a magnifying glass in your pocket.



Blackthorn blossom along the roadside

Can this be blossom! It is still winter!

But there it is.

Long spikes densely covered in white flowers.



What on earth can be the advantage of blossoming so early?



Perhaps blackthorn is wind pollinated: its pollen is carried by the wind from one tree to another? Can you think of some reasons for thinking blackthorn might be wind pollinated?

I can think of three good reasons:

1. There is no sign of leaves, and flowers-before-leaves is usually a sign of wind pollination.
2. It tends to be windy in late winter which would help wind pollination.
3. Winter is too cold for most insects so insect pollination is unreliable.



Wind pollination is the obvious answer but it happens not to be the case.

Blackthorn blossom is insect pollinated!



Although winter is too cold for most insects, insects such as solitary bees do get going on a sunny day, desperately need food and head straight for blackthorn blossom which is rich in sugary nectar. As the bees suck up the nectar, pollen collects on their hairy tummies and is carried from the flowers of one blackthorn tree to the flowers of another blackthorn tree.



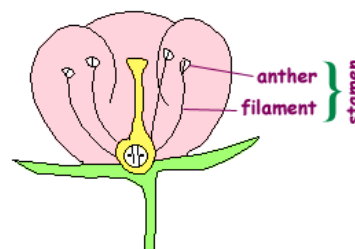
Pollination is important because, for a seed to develop, pollen has to fuse with an ovule.

Let's remind ourselves about where the pollen is made and where it has to get to.



In blossom like blackthorn, pollen is held in **anthers** which are at the tip of stalks called **filaments**.

Each anther and filament together make up a **stamen**.



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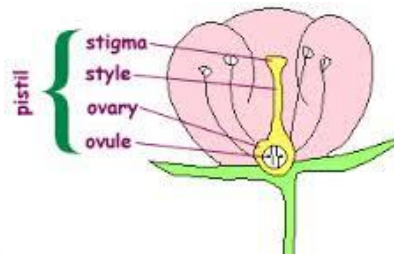
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The pollen needs to fall on to a sticky pad called a **stigma**, held up on a stalk called a **style**.

Pollen that falls on a stigma will travel down through the style and fuse with an **ovule** in the **ovary** below.

Stigma, style and ovary together are called a **pistil**.



Only when pollen and ovule have fused can a seed start to develop.



Have a good look at blackthorn blossom. See the petals; the anthers on their filaments; and the pale green pistil in the centre of the flower with its sticky stigma on top, ovary swelling at its base and tube-like style between.



Not only the insect pollination, but 2 more things bewilder me about blackthorn blossom.

They are the differences between what I have read and what I can see.

1. One of my tree books says that blackthorn anthers are red.


Anthers get their colour from the pollen they are covered in. We are not surprised to be told that pollen can sometimes be red because big lilies sold by florists have red pollen. The red pollen stains clothes so we know we have to steer clear of it!



We may not be surprised that anthers are sometimes red, but **I have only ever seen yellow anthers on blackthorn flowers**. I keep looking. Can the books be wrong?



What do you see?

2. A website says that blackthorn anthers are first tucked down round the style and then, when they unfurl, the pistil extends itself up above the anthers. 



This sounds like a good idea because it would reduce the chances of self-pollination (a flower's pollen falling on its own stigma).

However, **I have only ever seen anthers on blackthorn flowers held high or wide** – never bowed down round the pistil.



What do you see? Can websites be wrong?

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We have lots to look for when we get up close to a blackthorn blossom:

Which of the following statements would you say is true:

1. The flowers are bright white (not even creamy white)
2. The flowers have 5 petals.
3. Before the bud opens, the anthers are red.
4. On open flowers, the anthers are yellow.
5. On half-open flowers, the anthers are curled down round the style.
6. While the anthers are curled over, the stigma is above the anthers.
7. On fully open flowers the stigma is level with the anthers.

I asked my friend Jenny, Digital Jen, to take some photographs of blackthorn blossom.



Jenny is an exceptionally good photographer and her camera has powerful magnification. I think her pictures show that all the above statements are true. You can see her other photographs of blackthorn blossom at www.digitaljen.co.uk/blackthorn-blossom ,



We would love to know what you saw when you looked closely at blackthorn blossom. Please post your findings, thoughts and photos on the Hello Trees [Facebook](#) page. Perhaps you'd like to do a drawing of some blackthorn blossom?