

Hello Trees Resource Sheet

What to look for outdoors in Summer Horsechestnut leaf miner life cycle



We have [identified our horsechestnut tree](#)



and looked at the [effect of leaf miners on horsechestnut leaves](#).



Now we want to know more about the leaf miners: where they came from and what will happen next.

The larvae hatch from white oval eggs.

Each egg is less than 1mm across.

The eggs are laid on *top* of the leaves along its veins.

On my photograph, I can see white specks, singly and in clusters.



Do you think they are eggs?



I don't think the white specks are eggs because they are not along a vein.



Have a look to see if there are any eggs on your leaf. They will be white specks on top of the leaf along the leaf veins that go outwards from the main vein.

In my photo, the stripy thing is a larva.

Larvae are only about 2mm long.

They pass through 5 stages of growth within about 4 weeks.

Then they spin a dark brown cocoon, 4mm long, around themselves.

Inside the cocoon, a moth develops.



Scientists would say, 'the larva pupates into a moth'. This happens within 2 weeks.



Do you think the very dark, pointed thing on my photograph is a cocoon?

I thought at first it was a poo coming out of the grub!



Can you see any cocoons in your leaf?

Have a look at the [Forestry' Commission's leaflet](#) showing clear photographs of the leaf miners' eggs, larvae, pupae and moths.



I think the moth is exquisite: tawny fluffy wings with white stripes and fringed ends. And so tiny! Only 5mm long!



The scientific name for the horsechestnut leaf miner is *Cameraria ohridella*.

I think we would say cam-er-AIR-ee-a-uh and oh-rid-EL-la.



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Moths are either male or female.

A female finds a male to mate with, and then she lays her eggs.



No one has seen a moth eating.



It seems that once they have mated and, in the case of females, laid eggs, their lives are over. They live for a few days only.

It takes 2 weeks for the eggs to hatch. Out come larvae, and it all starts again.



Have you been counting the weeks?

How long is it from an egg hatching to when the next generation of eggs hatch?



I make it 4 weeks as a larva + 2 weeks in a cocoon + a few days for the female moth to mate and lay eggs + 2 weeks for the eggs to hatch into new leaf-miners



= less than 9 weeks altogether.

Of course there is much variation in the timings.

Botanists say that in reality the life cycle is 6-11 weeks.

If the first eggs are laid in mid April, and taking an average of 9 weeks for a life cycle, how many generations of leaf miners could infest the tree before autumn sets in in mid October?



I make it 6 months, say 27 weeks, which gives us 3 generations of leaf miners to infect a tree each year.



Some scientists have observed that the first infestation is of the lower layer of leaves, and the second and third infestations further up the tree.



Does it look as if that is the case for your tree? Keep an eye on developments and see.



We have been considering what happens during the late spring, early summer and early autumn. What do you think happens over winter?



Clue: in late summer, cocoons are round and are especially protective. They can protect the developing pupa from drying out or getting too cold for 6-7 months.



Yes, you are right. The cocoons over-winter among the fallen leaves.

Then, from each cocoon, out comes a moth, male or female. Females mate with males and lay eggs on the leaf surfaces.



And the whole cycle starts again, and will again, and again ...



For more about trees, fun things to look for and do indoors and outdoors, and about Hello Trees books, see the [Hello Trees website](http://www.hellotrees.co.uk).