

MICROSCOPICAL EXPLORATION

THIRTY NINE

THE AUTUMN LEAVES ARE OFF THE TREES

Not far from my home is a pleasant green space (PGS) which holds the burials of more than 23,000 former residents of Cumbria, named Cumberland when the space opened as a cemetery. They, the deceased, some of whom have been there since the last quarter of the nineteenth century, however, are not the subject of this brief exploration. The mostly deciduous trees, or bits of them, which share the space, are!

It is unlikely that any of the trees are as old as the oldest graves. But, as I have been unable to access any pertinent register of trees for this area of Cumberland Council land, or indeed, to count any of their annual growth rings, I can only assume that statement to be correct. Using a combination of my rather sketchy knowledge of British native trees, the excellent Woodland Trust website [here](#), the LeafSnap plant identification app and my copy of The Observer's Book of Trees (1964 Reprint), Beech, Cherry, Elm, Lime, Oak and Sycamore trees were identified at various locations across the PGS.

Now, in the autumn all the trees named above shed their leaves giving rise to leaf litter, which some might argue is merely a euphemism for 'make a mess', but which provides a bountiful source of specimens for microscopical observation.

A leaf from each of the identified species of tree was collected for observation, plus one from one of the numerous bramble bushes which also occupy the PGS.

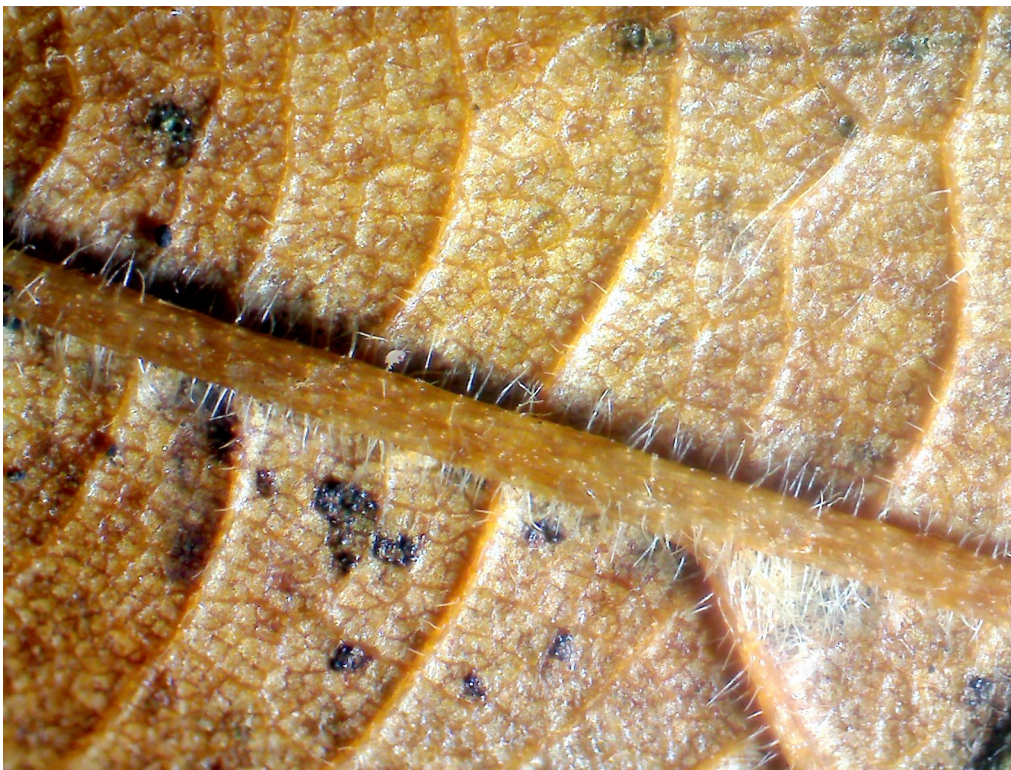
For the observations my ancient Olympus VA-II stereomicroscope from 1966 was called out of retirement and fitted with its 1x objective pair. Images of both the top surface and underside of each leaf were captured using a Brunel Eyecam Plus eyepiece camera and Helicon Focus8 image stacking software, and are shown below.

BEECH

TOP SURFACE

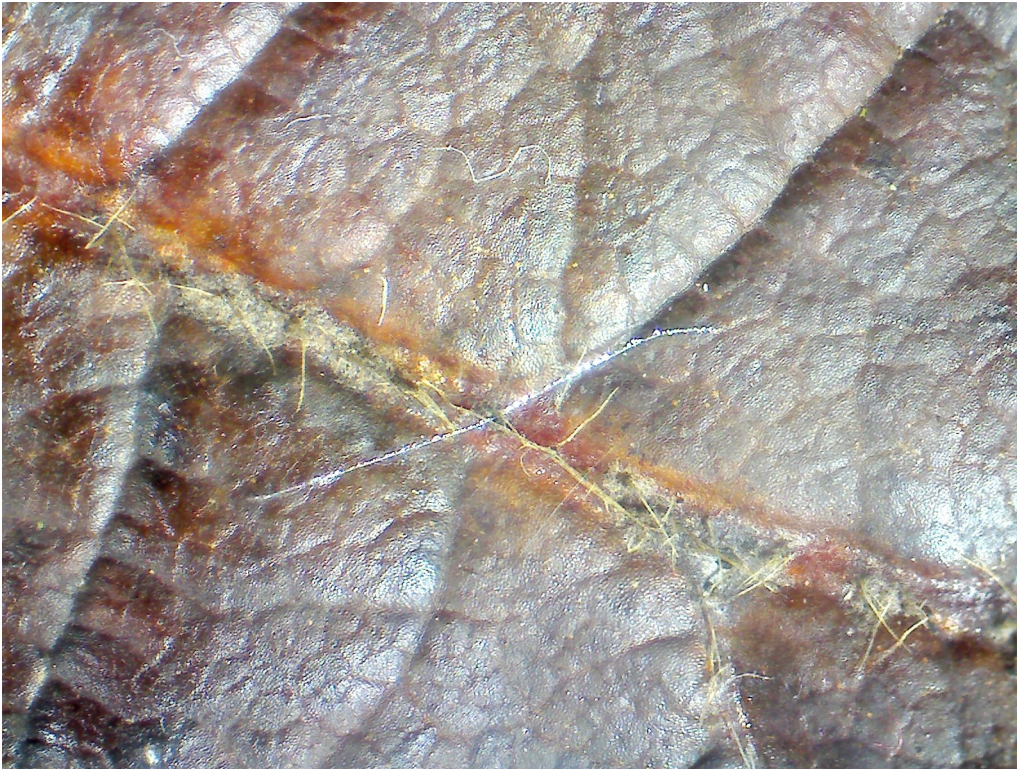


UNDERSIDE



BRAMBLE

TOP SURFACE



UINDERSIDE



CHERRY

TOP SURFACE



UNDERSIDE



ELM

TOP SURFACE



UNDERSIDE



LIME

TOP SURFACE



UNDERSIDE

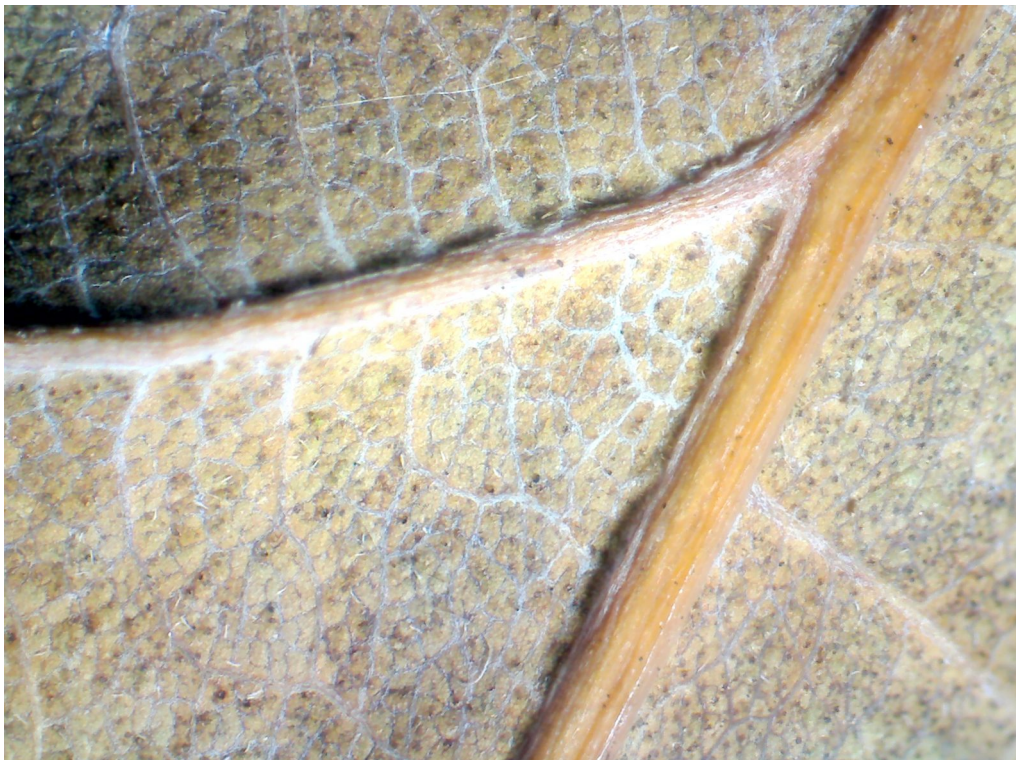


OAK

TOP SURFACE

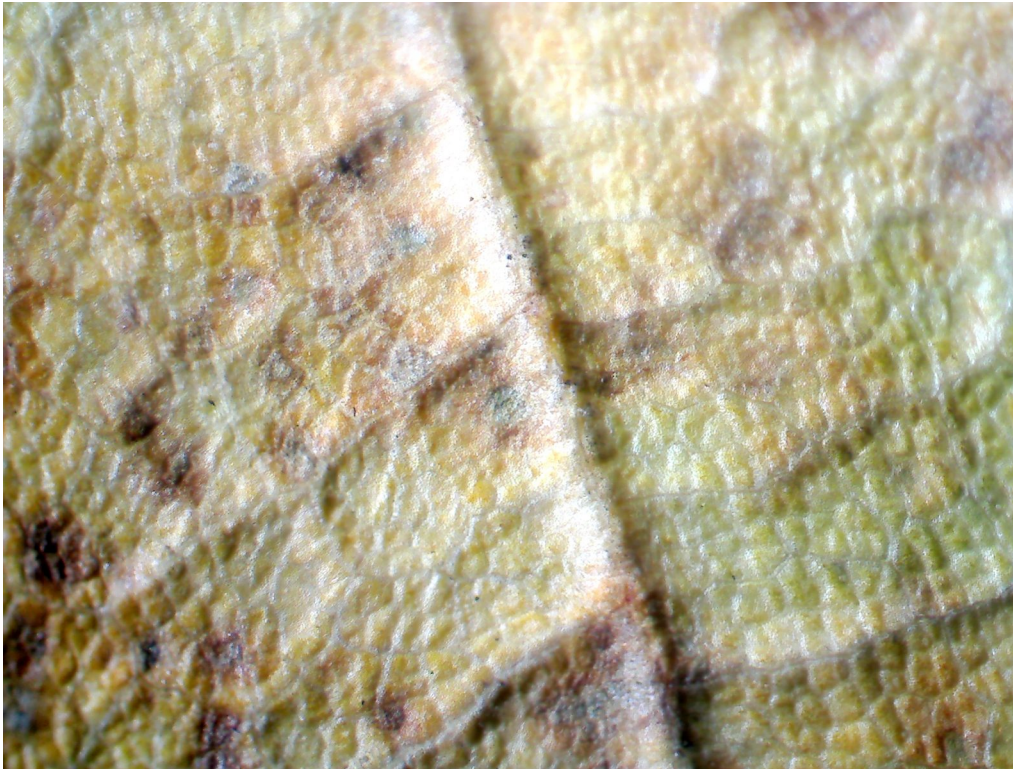


UNDERSIDE



SYCAMORE

TOP SURFACE



UNDERSIDE



As is evident in the above images, some of the leaves can be variously described as downy or having hairs, and this feature can be used to further identify the species.

A thorn may be seen growing from the midrib on the underside of the Bramble leaf, which I discovered when I collected the specimen and it drew blood from my finger... I'll know next time!!!

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As we say here in Cumbria:

‘Ave a go yersel’!

Comments, gratefully received, to:

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