

The Outwoods in Autumn

The arrival of autumn and winter mark the end of another cycle of growth and the beginning of a period of rest. The nights are growing longer and the days are becoming shorter and colder. In the woodlands the leaves of deciduous trees are changing colour and falling to the ground to enrich the woodland soil.

Although all trees, even evergreens, replace their leaves periodically it is only deciduous trees that lose them all at once and remain leafless throughout the winter. The reason for this strange behaviour isn't linked with levels of sunlight, but with the availability of water. In order for trees to take up water the temperature must be above 2^o centigrade. This means that for extended periods during the winter trees are not able to take up the water they need to keep their leaves hydrated. In order to prevent the leaves drying up and dying the trees remove any useful chemicals then simply jettison them. The autumn colours that we all enjoy so much results from the trees withdrawing green chlorophyll from their leaves and taking it down into the roots where it can be stored until it's needed again in the spring. Evergreen trees avoid this problem by manufacturing leaves especially designed to retain water thereby avoiding dehydration. The leaves of holly, yew etc. are waxy, to prevent the loss of water. This means that smaller trees like holly, which spend the summer months under a dense canopy of shade created by the taller trees around them, can photosynthesise during the winter when other trees are leafless.

As the trees enter a period of inactivity, another component of the woodland flora, fungi, are reaching the peak of their reproductive cycle. The largest part of the fungi that we find in our woodlands and fields are the mycelium, which lay below the ground where they get on with the valuable job of decomposing organic matter. During the autumn months these underground mycelium produce the cap and bracket fungi that we all recognise. These "mushrooms and toadstools" produce millions of microscopic wind bourn spores that will produce another generation of fungi.

As well as helping to decompose the organic matter that builds up on the woodland floor, many fungi also help the trees to grow. By forming what is called a "symbiotic relationship" with a trees root system, the fungi are able to benefit from the sugars produced by the trees and in return extend the reach of the trees root system by taking up water and minerals and feeding them to the tree. Some species of fungi are generalists and will grow on the roots of a variety of trees. Others, like fly agaric, are specialist and will grow exclusively on one tree species. In the case of fly agaric, the red and white toadstool of fairy tales, this is the birch. There are many birch trees growing in the Outwoods, especially in the area to the east of the car park. If you're visiting the Outwoods over the next few weeks look out for fly agaric. By looking for the nearest birch tree you'll get some indication of how far the roots stretch out from the trunk.