

Orchids Arrive At Clay Lane

As trees grow and new woodlands mature, the changing effect on the local landscape is obvious and usually very dramatic. This is certainly the case on the outskirts of St. Helens where Gail and Brian Judd planted a small woodland and meadow next to their house in Clay Lane, Eccleston in 1997 with support from The Mersey Forest and Landlife. The former agricultural land is now an established woodland of ash, aspen, cherry, alder and oak approximately 15 metres high providing an attractive backdrop to the scattered dwellings in the vicinity.

What can be less obvious though, are the changing characteristics of the flora and wildlife within the wood itself and the secret world below ground.

Probably overlooked for several years, but noted for the first time in June 2015, were several leafy spikes of an orchid - the Common or Broad-leaved Helleborine (*Epipactis helleborine*). A few of the spikes were about to flower.

Orchids have a certain high profile presence or aura about them. This may be a consequence of their exotic appearance - increasingly available for sale on the supermarket shelves. Or it may be because they are perceived as rare growing wild in this country.

In reality, some orchids can be quite drab and retiring while some are common. For example, the pink Marsh Orchids appear throughout The Mersey Forest, including on road verges and vacant land, often in large numbers.

The Clay Lane Helleborine is not particularly uncommon in woodlands but that belies the fascinating story behind its presence. A story which reflects the hidden world of the woodland soil, teeming with microscopic life with innumerable ecological associations and life and death struggles.

Orchid seeds are tiny and can be blown long distances by the wind. However, as a result of their small size, and unlike other plant seeds, there is an insufficient food store to enable the orchid seedling to get its emerging green leaves above ground and start generating its own food through photosynthesis.

It needs to obtain food from somewhere and does so from a fungus growing in the soil which in turn is obtaining its food from other green plants including the woodland trees.

Nearly all green plants have fungi associated with their roots. This is known as mycorrhiza, literally "fungus root". The fungi surround or penetrate the roots of the plant and obtain their food (primarily carbohydrates) from it and in return the plant benefits by increased water take up and essential trace elements. It is a mutually beneficial arrangement or symbiosis.

However this is not the case with orchids. They are parasitic on the fungus obtaining from it water, carbohydrates, mineral salts and organic materials. The fungus gets nothing in return. So orchids cannot grow anywhere. Some orchid seeds can lie dormant for many years before the right fungus comes along. Others like the helleborine are more catholic in their taste. Even so it takes about seven or eight years after germination before the Helleborine finally produces its first flowers. By this time it is less dependent on the fungus since it can produce its own energy through photosynthesis. It has also produced rhizomes which will enable it to flower in subsequent years and to spread.

So here as in other new woodlands in The Mersey Forest we can look forward to new plants and other species moving in as the trees mature. It's just a pity we can't actually see what's going on beneath the surface in the same way we can see the trees transformation of the landscape