The Hornbeam

Thousands of years ago the Small-leaved Lime (*Tilia cordata*) was very common in the south-east of England but now Oak and Beech are dominant in many of our natural woodlands. This is a state of affairs that has been brought about by a process of ecological succession. The pollen record indicates that Hornbeam arrived from the continent about 5,000 years ago when Oak was already well established. It is interesting that whereas Small-leaved Lime has virtually disappeared from this part of the UK, Hornbeam has continued to thrive in the Home Counties. One reason for this is that Hornbeam is exceptionally shade tolerant and will happily grow in the understorey. Like Beech, it has a great capacity to produce epicormic growth down the length of its stems thus giving it the opportunity to utilise for photosynthesis any sunlight that filters through the canopy.

Hornbeam coppice with Oak standards has long been an important silviculture system, one which has been extensively practised in The Blean. On other less acid soils in Kent one may come across a rare Ash/Hornbeam wood; Spuckles Wood near Stalisfield Green is a good example.

Some of our ancient Hornbeam coppice stools have been estimated to be 700 years old. However, in the year 1300 there was probably less Hornbeam in The Blean than is currently the case. Records show that plantation of Hornbeam occurred apace in the first part of the 18th

century. During this period the first extensive introduction of Sweet Chestnut coppice was also undertaken. These two events are almost certainly linked. Chestnut was originally cut on an approximately 14 year cycle to provide durable hop poles. After harvesting the hops needed to be dried and wood smoke would contaminate the product. Consequently the early oast houses used charcoal as a fuel. Hornbeam is an excellent charcoal species and no native wood is more calorific.

Hornbeam has the hardest wood of any tree in Europe! Its name possibly derives from the nature of the wood, being hard like horn. (An alternative theory is suggested by the fact that in the past a Hornbeam yoke was used for joining a team of ploughing oxen together, the attachment being made to their horns.) The Latin name, *Carpinus betulus*, apparently suggests an association with carpentry... Not so! The tools of the craftsman would be quickly blunted and most of his time would be taken resharpening them. Consequently the hardness of Hornbeam was only exploited for a few selective purposes, such as piano hammers and cogs for mill gear.

Like many hard woods, Hornbeam is slow growing. Generally speaking the faster coppice grows, the straighter the poles will be. In shady conditions Hornbeam poles are rarely straight; often they will twist around one another. Thus they have little value as poles; they are of much greater value to the wood collier. Before coal became the major source of energy, London's furnaces were fuelled by Hornbeam charcoal from Epping Forest and other nearby Hornbeam woods. Epping Forest was also used as wood pasture so many of the Hornbeams were pollarded rather than coppiced. In addition to coppice and pollards, Hornbeam has also been layered to make most effective hedges.

Hornbeam is frequently confused with Beech; indeed Culpeper (1653) referred to Hornbeam as the "other small rough sort" of Beech. The leaves, while similar in shape, are in another respect different. The Hornbeam leaf has a toothed edge whereas that of Beech has a smooth margin. During winter the leaves of young Hornbeams may remain on the tree, shrivelled and rusty brown. This is a property they share with Beech. However, in the summer the Beech foliage turns altogether darker green than the leaves of Hornbeam. The Hornbeam has a fluted stem covered in a smooth grey bark which sometimes has the pattern of a snake skin. (See photo of Hornbeam poles seasoning) The female catkins of Hornbeam are highly characteristic. They appear along with the male catkins in April shortly before the leaves. The female catkin consists of a loose cluster of leafy bracts with their lips curled upwards, the whole structure hanging on the tip of a twig like a hop. Hornbeam fruits appear in autumn, the seeds consisting of two tiny hard nuts. These lack the woody husk covered in bristles which we associate with beech mast. In former centuries beech mast was primarily devoured by pigs; nowadays it will sustain squirrels, badgers, other small mammals and a variety of birds. On the other hand Hornbeam seeds appear to be the particular favourite of the Hawfinch. It is noteworthy that the Hornbeam and the Hawfinch share a common range in the south-east of England.

Researched by David Shire & Ken Martin – Blean Heritage & Community Group ©