Trees in and around Nailsea
Terry Smith
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I am greatly indebted to Tony Titchen for initiating my interest in trees and for his help in teaching me much about tree identification. I must also give most sincere thanks to Phil Barclay of Nailsea Town Council for encouraging me to photograph the trees around Nailsea as a record of our heritage, and for his help in locating some of the trees in this book. I am also grateful to Ian Chambers for his suggestions in formatting some of the pictures, to Brian Weeks for finding old trees in Backwell, to Grant Burleigh for his contribution to the information on the Birch tree, and to Jon Stokes (Tree Council) and Tony Titchen for correcting some of the errors in the text. The author is grateful to Nailsea Town Council for financial support in the production of this book.

I have tried to obtain the landowner’s permission when I have entered land that might have been privately owned, but in some cases it was not possible to establish ownership despite many enquiries. If I have trespassed on private land to take photographs, then I must offer my sincere apologies to the landowner.

This book does not aim to illustrate all of the trees in the vicinity, but I hope that it will show a selection of the notable trees, especially when these have a story. ‘Trees’ are here defined as woody plants that are expected to live for at least 10 years.

Please report to the Town Council if you see a tree that is under threat from development, and it may be possible to apply for a Tree Preservation Order. The Nailsea Environment and Archaeological Team (NEAT) led by Phil Barclay have already listed many of the important trees around Nailsea and they would be interested in recording any significant trees, especially those that might be veteran or ancient. Reports of damage or hazards should be made to Nailsea Town Council or to North Somerset Council.

Any reference in the text to edibility should be treated with caution.
The streets and public open spaces of Nailsea are well endowed with trees and shrubs of a variety of species. Many of these were planted when the Town was being developed in the 1970s, replacing the trees that were removed during the construction of the new housing estates. These new trees deserve our care so that our children will be able to appreciate them in years to come. Since Backwell did not undergo the radical changes experienced by Nailsea, less tree planting was undertaken, so the trees there tend to be more mature, many having a charm that can only come with old age.

As it was apparent that vandalism was the most significant cause of the failure of newly planted trees in Nailsea, the Town Council encouraged tree planting by financing a ‘Free Tree Scheme’ in 1995 and 1996. A total of 132 trees were given to householders with a choice of several species to plant in their own gardens. It is to be hoped that these trees have been nurtured and are now giving pleasure to their owners.

In February 2007, 150 trees (Birch, Hornbeam, Ginkgo and Whitebeam) were planted in Queens Road as part of a trial conducted by Nottingham Trent University of the compost derived from recycled garden waste (page 2).

The Town Council has also promoted the Tree Warden scheme, coordinated nationally by the Tree Council, and which has now been adopted by many other local authorities. Tree Wardens plant trees, and organise tree planting schemes,
remove or slacken tree ties (page 45), remove redundant tree stakes when these are restricting growth, name and label trees (page 46), map the trees, give advice to tree owners, help to manage local woodland, report dangerous trees, and request tree preservation orders.

Since the beginning of the industrial revolution there has been an unprecedented increase in the release of carbon dioxide as a source of energy. This gas is an important factor in causing the Earth to heat up due to the greenhouse effect. These fossil fuels, derived by photosynthesis over a period of many millions of years, probably 80 to 120 million years ago are now being burnt in our cars and homes, and in our power stations as a source of energy. Even now it is anticipated that the rise in temperature could reach 4° C before the end of this century, creating a Mediterranean climate in the UK, and making deserts in subtropical countries. The precautionary principle dictates that we should act now to avert a potential catastrophe. Although the problem fundamentally lies with our increasing population (at present an extra two people on the Earth each second) and with our profligacy and consumer culture, we should be determined to reduce our carbon emission and find means to trap carbon dioxide. There is little doubt that trees can play a significant role in the sequestration of carbon from the atmosphere. For this reason, even if for no other, there is a strong case to be made for planting more trees. There is also a need to prevent the destruction of trees. At the current rate of tropical forest loss, 5-10 percent of tropical rainforest species will be lost per decade through land clearance.
In the UK it is necessary to choose appropriate species for new planting schemes which will best tolerate the expected change in climate. For example, Beech may not be ideal, as it is susceptible to drought, while Oak is apparently able to tolerate the high temperatures that might be expected in the UK. Even so, it is best to plant native trees whenever possible, since these support the greatest biodiversity.

Urban trees are important for our well-being. They provide shade, suppress traffic noise and remove pollution. They have a calming influence on our lives, and act as a refuge for our wildlife. They capture carbon dioxide and so help to reduce global warming. They are part of our heritage and many live for centuries, and are often of great historical importance.

Some trees could be instantly recognisable as either veteran or ancient, but this classification is subjective. Some trees may not grow to a large size or reach a great age but they may be very old for their species. This is often true for trees like the Silver Birch and Mountain Ash.

Indeed, we have been able to retain some of our ancient trees and we must try to preserve these, since they are often a link with the past, and they are just as important (perhaps even more so!) than the very old man-made structures that we cherish for

A veteran tree may be defined as one which ‘because of its great age, size or condition is of exceptional value culturally, in the landscape or for wildlife’. While veteran trees may be in the ‘best’ or mature period of their life histories, even though they may be showing some signs of decay, ancient trees are those that are in the post-mature and declining phase of their lives. However, some authorities seem to use these terms interchangeably.
good reasons in Nailsea and Backwell. In general, any tree that is at least 400 years old may be said to be ancient. Only few ancient or veteran trees have survived in those places where the housing estates of our towns have been built.

We are fortunate to have large areas of woodland close to our homes, some of it very old. For instance Towerhouse Wood, about 1 km to the north of Nailsea, purchased by the Woodland Trust in 1992, is ancient woodland. The land here is difficult to cultivate since the rocks are close to the surface, and it has been wooded for at least 400 years; even back to the Ice Age. Here we can find ancient Oak trees, some probably planted to mark historic boundaries. This Wood also has Small leaved Lime, a marker of ancient woodland, together with evidence of coppicing, dating back to the time when much of our society depended on woodland products. In spring, the wood is carpeted in Bluebells, another indication that it is very old. Having lost 50% of our ancient woodland in the last 50 years, it is important that we should care for what remains. The group known as the Friends of Towerhouse Wood aims to preserve this site and to retain its wildlife.

At Nowhere Wood on Trendlewood Way the trees are mainly relatively recent, having grown in the remains of a Pennant Sandstone quarry. This area is owned by North Somerset Council, and managed by a group of volunteers. The woodland on either side of Cheston Combe Road, to the south of Backwell is now owned and managed by the Backwell Environment Trust. Although this is recent woodland, it has much wildlife, including rare plants, dormice and adders in 27 acres. At Tyntesfield many exotic trees were planted in the early part of the 20th century.
Century, a site now owned by the National Trust. The ancient woodland surrounding the former Barrow Hospital has many unusual non-native trees, planted when the Hospital was developed in the 1940s. The relatively undisturbed woodland at Bourton Combe is dominated by Yew, and is well known for its ferns and mosses.

Much of our wildlife is under threat and it is now recognised that very old trees create a unique habitat within which many threatened invertebrate species are able to survive. Some of these species may be found nowhere else and are entirely dependent on the environment provided over many centuries by the ancient trees.

The Ancient Tree Forum (www.woodland-trust.org.uk/ancient-tree-forum/) has been established to promote and protect these relics, and recording these trees is now a major concern of the Woodland Trust (see also www.ancient-tree-hunt.org.uk/project/hunt). When a tree dies it can still be of benefit to the wildlife, though regrettably many old trees have been felled just because they are ‘old’ and ‘untidy’. Holes in trees can provide shelter for bats and owls, and woodpeckers find it easier to make holes in older trees as the wood becomes softer.

In an urban setting especially, it is essential to monitor trees for structural stability. In Nailsea we have learned by experience that some trees, even Oaks, can be unstable or shed branches. Although so much can be said in favour of urban trees, we must also recognize that they can sometimes be detrimental to our buildings, by causing subsidence or even falling onto our houses, and at the least giving rise to large insurance claims. It is necessary to
be proactive in anticipating problems of this nature, which can give trees a bad reputation. Some trees may even drop branches onto innocent bystanders, although such problems are rare compared with other everyday hazards that do not involve trees.

It is said that there are 500,000 ancient trees in the UK, probably far more than in any other country. When these trees are felled the environment that they would sustain cannot be replaced merely by planting a sapling. Their unique status is acquired only by the aging process, which requires several centuries of growth. In the vicinity of Nailsea about 40 veteran trees are recorded by the Bristol Regional Environmental Records Centre (BRERC), some of which are inaccessible as they are in private gardens. Those recorded are mainly Oak Quercus robur (page 9), Yew Taxus baccata and Willow Salix sp.

Many substantial trees that grew in this area now remain only as fallen timber, like the reclining Oak tree to be found at Moorend Spout. Rotting wood is home to many creatures, and we should allow this to remain on site whenever possible. Burning such wood as fuel can cause the loss of many wood-inhabiting invertebrates.

Priority in the present account has been given to trees that can be easily seen by the public. The trees have been chosen subjectively, often because they have stories, or are particularly photogenic.
However, there are many other trees in this area that would deserve recognition. It is clearly impossible in a short review to do justice to the many important trees around Nailsea. I have tried to give sufficient description to enable some of the trees that can be seen in the vicinity to be identified in the hope that this will encourage interest in their preservation.

For many of the trees included here, I have given the location using the National Grid Reference, and I have added girth and height measurements when possible. These measurements are explained on page 48. Some aspects of our local trees have been considered at length in the earlier book ‘The Natural History of Nailsea’, and reference is then made to ‘NHN’.

1) Oak
Several substantial Pedunculate Oaks *Quercus robur* may be found on the southern boundary of Towerhouse Wood (ST 475 719) where they were probably planted to mark the limits of land ownership about 400 years ago. Several of these have been pollarded, that is, they have had the upper branches removed at some time in their history. These large branches may have been selected for a particular purpose, as in the ship building industry, where certain shapes are required for construction. Pollarding is beneficial to the tree, rather like pruning, hedge laying or coppicing, enabling the tree to live up to 50% longer.
Many Oak trees were probably planted at a time when it was thought that the defence of England would depend on the timber used for the construction of our naval fleets. This was the situation when they were planted, and many of these trees now look old, but they remain a prime habitat for unusual fungi and rare invertebrates, like certain beetles and hoverflies. For example the Stag Beetle *Lucanus cervus* depends on rotting wood. The presence of certain fungi, especially the brown rot Beef-Steak fungus *Fistulina hepatica* is essential for the colonisation of these ancient trees by certain rare invertebrates. The tree at Moorend Spout (page 6) shows the red ‘cubical rot’ often associated with the Sulphur Polypore *Laetiporus sulphureus*. This bright yellow bracket fungus is also known as ‘Chicken of the Woods’ in reference to its culinary uses. Cubical rot can also be caused by the Beef-Steak Fungus.

A gnarled Oak (page 2, girth 415cm, height 1420cm ST 4887 7131) with many ‘Owl Holes’ may be found close to the remains of the derelict kennels at Whelps Place behind Wraxall House adjacent to the site of a mediaeval village, an area that is now protected by English Heritage.

There are many Turkey Oaks in Towerhouse Wood. This tree produces timber inferior to that of English Oak, and it is intended to remove these whenever possible. This tree, which was introduced to the UK from Southern Europe in 1735, is distinguished from the English Oak by its ‘mossy’ acorn cups, and ‘whiskered’ buds. Many insects depend on the Oak tree, for example the very distinctive Knopper Galls on the acorns are made by the wasp *Andricus quercus-calicis*, introduced into this country in 1961. This has an alternation of generations, with the bisexual form arising from the galls infecting the catkins of the Turkey Oak *Quercus cerris*, producing the asexual generation which attacks the acorns of the English Oak.
Several large Oak trees are to be found growing within Nailsea, notably the English Oak tree *Quercus robur* (girth 220cm, height 1620cm, ST 4763 7085) that gives the Royal Oak public house its name (page 4). This may have been planted in about 1890, and the slightly younger oak (girth 200cm, height 1740cm, ST 4737 7075) on the village green, planted to commemorate the Diamond Jubilee of Queen Victoria in 1897, and which featured in a photograph taken at that time (page 1). Another veteran Oak that must be at least 200 years old (girth 595cm, height 2890cm ST 4817 7120) is found in the field on the corner of Nailsea Park (see front cover).

The playing field south of Nowhere Wood also has a very substantial Oak tree (ST 4745 7184), with a girth of 475cm, 3180cm high. In 2009 a large branch broke and the remaining branches were then reduced in an attempt to save the tree, which is probably also about 200 years old.

Other old Oak trees are found in the extensive grounds of Tyntesfield House (ST 506 715), together with other veterans of various species. There are also many exotic trees on this estate, which were introduced by the Gibbs family in the 19th and 20th Centuries (page 25).

Oak trees in the UK are now being infected with several new diseases, notably Sudden Oak Death due to the fungus *Phytophthora* and bacterial Acute Oak Decline. So far, to my knowledge, these have not been found in the vicinity of Nailsea.
One of the trees in Towerhouse Wood was known as the Polo Oak, by reference to the famous mint, from the hole present in one of its branches (pages 7). This ancient tree leaned to the south, and in October 2000 it collapsed into the adjacent field. With hindsight, it might have been possible to save this tree had we foreseen this and provided props under the trunk. The remains of this tree (ST 4749 7180) have now been converted into a seat with funding by YANSEC, and inscribed with the words ‘The Polo Tree c1600-2000’. Ring counts gave the age as at least 300 years, and the tree was probably 400 years old when it fell. The seat provides a view across the Mesolithic site and the Yeo valley towards Nailsea. Another of the Oaks in this area has long nails driven into the trunk that have been used as climbing footholds by generations of children. Pipistrelle *Pipistrellus pipistrellus* and *P. pygmaeus*, Brown Long-eared *Plecotus auritus*, Daubenton’s *Myotis daubentonii* and Noctule *Nyctalus noctula* bats are found in Towerhouse Wood and may use these ancient trees as roosting sites.

Evergreen (or Holm) Oak *Quercus ilex*, with holly shaped leaves (*Ilex* is the generic name for Holly) was introduced to England in the 16th Century from south Europe and north Africa. This tree was often planted by the Victorians, though it has now fallen out of favour, as its foliage can be dark and oppressive. It was widely planted in Clevedon Court, and it used to be the basic diet for the elephants at Bristol Zoo (There are now no longer any elephants at the Zoo!). A very substantial example may be found on the Waitrose car park (ST 4746 7081), showing the tendency of this tree to have multiple trunks (see pages 8 and 9). Another larger specimen is found behind the group of Monterrey Cypress trees on the Waitrose car park.
2) Sycamore and other maples

In the UK, it seems that Sycamore is not a truly native tree, originating in central and southern Europe. It was first recorded in England in 1282 when it was depicted on the tomb of St Frideswide, the patron saint of Oxford. However it has adapted itself very successfully to the English climate and it is the dominant tree in some woodland. Since the leaves open very early in the season, it is at an advantage over other trees that must tolerate its shade. It is also rabbit resistant, very fast growing and highly fecund. Some of its vigour may be related to the fact that it has twice the number of chromosomes of other Maples (2n=26), implying that it is probably an allotetraploid, a hybrid formed between two quite different *Acer* species a very long time ago. A chromosome doubling (2n=52) then enabled it to be fertile. The name Sycamore is derived from its confusion with *Ficus sycomorus*, the Mulberry Fig. The name *pseudoplatanus* means ‘false plane’, suggesting the similarity in the leaf shape, both having five distinct lobes (see photograph above). The dark reddish-pink petioles are quite distinctive. Strangely the Sycamore in the USA is the name given to the American Plane *Platanus occidentalis*.

Brilliantissimum Sycamore in Christ Church Churchyard. This cultivated variety has bright spring foliage
Christ Church churchyard has a cultivar of Sycamore known as ‘brilliantissimum’ (meaning most bright, probably a ‘Latinised’ English name) planted to commemorate its 150th anniversary. This tree has yellow-pink foliage early in the season, though it later develops the more normal green colour (page 11). This tree is grafted onto wild Sycamore stock, and it rarely exceeds 4 metres in height. Sycamore wood is said to be essential for the construction of the backs of violins. The very white wood is used for making cooking spoons and rollers. The specific leaf fungus called Tar Spot Rhytisma acerinum is characterised by black spots on the leaves about 1 to 2 cm in diameter, which can be numerous in some years, though the trees appear to recover well in the following season.

Although Sycamore does not support such a large variety of animal species as Oak or Willow, the biomass (weight of the insects) can barely be surpassed by any other tree in the UK. It is therefore important in sustaining plant-eating insects and those animals further up the food chain that depend on insects.

Sycamore and Ash trees are dominant in Towerhouse Wood, together with the Field Maple, a close relative of Sycamore. This is usually a fairly small tree or bush, with leaves that are much smaller than those of the Sycamore.

Many different Acer species are grown as ornamentals, some originating in the USA. Typical of these are the Snake Bark Maples like Acer hersii that may be found in Colliers Walk in Nailsea. Perhaps more familiar are the Red Maples Acer rubrum, responsible for the brilliant fall coloration of the woodland in New England, and the Japanese cut-

The Tolpuddle Martyrs were said to have met under a Sycamore tree in Dorset when plotting their rebellion in 1829. A pressed leaf was taken to Australia when they were deported and this became the emblem for the Trades Union movement.
leaved maples *Acer palmatum*.

Sycamore and Ash may be found in most woodland in this area, together with the Field Maple. In common with all maples, the leaves of the Field Maple are opposite.

3) Ash

The Ash tree is probably familiar to all, and is a long established native tree in these islands characterised by the large pinnate leaves (See photograph above) and black

buds. The name Ash is from ‘æsc’ the Anglo Saxon word for a spear (cf *Acer*) and *fraxinus* is from the Greek ‘phrasso’ to fence. *Excelsior* – literally - from the heavens meaning ‘very tall’. The seed is a samara with a single wing, most unlike that of the closely related olive tree! Other species in the Oleaceae include the jasmine, privet, and lilac, with widely differing morphology, but all having opposite leaves. The autumn colour of Ash leaves varies with individuals; some turn bright yellow, while in others the leaves remain green at leaf fall.

Although Ash *Fraxinus excelsior* and Sycamore are unrelated and do not look at all similar, they have in common the way that the buds grow on the twigs. Although leaves of Ash are very similar to those of the Walnut, in the latter tree the buds are alternate. In addition, on sectioning the twigs longitudinally in
The leaves of the Ash tree are always opposite those of the Walnut, it will be seen that the pith is chambered, unlike Ash (page 28). Other than the Elderberry bush *Sambucus nigra*, in the honeysuckle family (Caprifoliaceae), which has similar pinnate leaves that could cause some confusion with Ash, no other native trees other than the maples have opposite buds.

Ash trees coppice well and the wood is well known as being the best for burning in open fires. The white timber is used for tool handles, wheel rims, and billiard cues. The fungus known as ‘King Alfred’s Cakes’ *Daldinia concentrica* will only grow on dead Ash wood.

Lesions often seen in local woods on the trunks of growing ash trees are caused by the bacterium *Pseudomonas syringae*. The Ash Bark Beetle *Leperisinus varius* is common in this area, and recently a large Ash tree was felled in Nailsea when it became infected with *Perenniporia fraxinea* a large white bracket fungus, which was in danger of spreading to neighbouring trees.

Male and female flowers are usually found on separate trees, although some trees will be found with both.

The Manna Ash *Fraxinus ornus* (page 13) may be found on Stockway South, with a mass of scented white flowers in late spring. This tree was the source of the biblical manna (e.g. Joshua 5:12). Ash Polypore fungus *Perenniporia fraxinea* attacking a tree (now felled) close to the Telephone Exchange.
4) Lime

Near to the entrance of Towerhouse Wood is a Small-leaved Lime tree *Tilia cordata* (ST 4767 7199) that is probably very old. Since this tree has multiple trunks it is likely that it has been coppiced. In this process the tree is cut to the base and the shoots that are then regenerated develop into new trunks. This process often failed since the tree can be killed when deer browse on the new shoots. However, a lime tree at Westonbirt Arboretum managed in this way is thought to be over 2000 years old. Small leaved lime was in great demand and was even known to Caesar as ‘the tree with many uses’. Its timber is almost without any grain and it can therefore be used for detailed carving, as seen in the work of Grinling Gibbins, whose woodcarving is on view at Chatsworth House. The wood is also traditionally used in the construction of the mechanism in pianos. In addition, just below the bark is a layer of tissue known as the bast. This can be stripped from the tree and used in the manufacture of rope, the basis of a major industry around Bristol in the 18th century. Rope made in this way was probably used to drag the heavy rocks to Stonehenge from Pembrokeshire in south Wales, and in the First World War the Germans used Lime rope as towlines for their guns. The closely related tropical tree *Corchorus capsularis*, also produces a fibre known as jute which is woven into sacks and made into the ‘re-usable biodegradeable’ shopping bags that we are now encouraged to acquire instead of the plastic alternative.
The Small-leaved Lime does not set seed easily and therefore it spreads only slowly, by comparison with Ash and Sycamore, which seed in profusion in most years. It was commonly known as ' pry' in the Middle Ages. Its flowers are scented and attract bees, but it sets seed only in exceptionally hot years. The occurrence of this tree in Towerhouse Wood therefore indicates that the Wood itself is very old and it is now classed as Ancient Woodland. By definition, this class of woodland is at least 400 years old, and is characterised by various 'indicator species', like Bluebells Hyacinthoides non-scripta. In the case of Towerhouse Wood, the area has probably been tree covered for at least 400 years and probably ever since the last Ice Age, about 8000 years ago. The stony soil would have made it difficult to cultivate, and the woodland has probably been retained as a source of Oak timber, Lime wood and bast, and Hazel Corylus avellana coppice. Also in Towerhouse Wood may be found a substantial multi-stemmed Chestnut Castanea sativa coppice (ST 4744 7193) that is probably very old.

The generic name Tilia may be derived from the Greek 'ptilon' meaning a feather, by reference to the bract that bears the fruit. It has heart shaped leaves, hence its specific name cordata, relating to the heart, which also gives us the word 'cardiac'. The leaves are hairless except for brown tufts of hair on the underside of the vein-joints. Similar tufts occur on the hybrid Lime but these are usually almost white. The Tiliaceae is closely related to the Malvaceae, which contains plants like Hollyhock.

Lime has been traditionally coppiced, a process in which the tree is cut to the base encouraging new shoots to grow up, enabling the tree to live for a very long time. Some coppice stools are over 12 metres in diameter and are quite ancient. Over time it has radiated from a central stump that has long since decomposed, and its outer stems form a circle, appearing rather like a fairy ring. A coppiced Small leaved Lime at Westonbirt Arboretum, Tetbury, is estimated to be over 2000 years old. An individual tree of this species would be expected to survive only a few hundred years; its
increased longevity is due to the rejuvenating influence of coppicing. Some coppiced woodlands are ancient woods descended from the original primeval woodland cover, whilst others are recent plantations.

The Common Lime tree *Tilia x europaea* was formed as a cross between the Small leaved Lime *Tilia cordata* and the Large leaved Lime *Tilia platyphyllos*, which is native in the North of England. A good example of this tree may be found outside the old Vicarage in Nailsea. This cross is characterised by the large amount of epicormic growth growing at the base of the tree in the form of small twigs that need to be cut back each year (page 15).

This behaviour is reminiscent of the English Elm *Ulmus procera* of which very few now remain, due to the Dutch Elm Fungus *Ophiostoma novo-ulmi* which probably killed 25 million Elm trees in the 1970s. The ease with which the elm could be propagated vegetatively from these shoots led to the proliferation of a genetically identical clone, which was especially susceptible to this disease.

In common with many hybrids (c.f. Leylandii, London Plane and Common Lime), it grows vigorously, and despite the sticky aphid exudates that drip onto cars parked underneath, it makes a good urban tree. The Silver Lime *Tilia tomentosa* is now widely planted in cities since the hairy leaves discourage aphids, and this species may be found in the NE corner of the Stockway South car park.

Beech leaves. These leaves go brown, but are retained during the winter.

Hornbeam leaves – (beam is derived from Baum, the German for tree, also found in Whitebeam). Horn refers to the hard, close-grained wood.
This cross has probably happened on many occasions in prehistory. The strange specimen of Common Lime *Tilia x europaea* in Backwell Hill Wood (see page 15) has a ‘buttressed’ trunk, and was apparently one of the early progeny derived from the hybridisation. Other examples of this variant are found in Bristol. (see A. Titchen; Nature in Avon 2000 vol. 60 page 63).

In earlier centuries, the Small leaved Lime tree was dominant in the woodlands of Wales, the South West of England, and across Northern Europe. The prefix ‘Lin-‘ suggests a connection with this tree and the Lime tree is well represented with family names like Lindley (ley referring to ‘field’). Even Linnaeus derived his name from his father who owned a field in which three lime trees grew. Several local place names incorporate reference to this tree, like Lime Breach Wood, but of course, ‘Lime’ in a place name can also refer to the character of the rocks!

5) **Beech** *Fagus sylvatica* and **Hornbeam** *Carpinus betulus*

Beech is not truly native in this area. Only in south-east England, in south-east Wales and in Gloucestershire can it be traced back to the ice age. It was introduced into the Bristol region, but has now become well established. The name beech is derived from the German word Buche meaning 'beech', and also Buch meaning 'book'. In the Middle Ages when books were first written, in Germany they were bound between beech boards. The tree is still recalled in place names that begin in 'Buck' as in
Buckingham. The scientific name *Fagus* is derived from the Greek *phagein* 'to eat'. The seed or 'mast' was a source of food, indeed 'mast' is derived from the German 'to eat', mästen.

Beech is shallow rooted, and for this reason it wilts quickly in dry weather, and it is also easily blown over in strong winds. Trees older than about 150 years are therefore unusual. The foliage is very dense, and few plants are able to survive under a dense stand. In winter it may be identified by its characteristic torpedo-shaped buds and by its smooth bark. Like oak, also in the Fagaceae, juvenile beech plants keep their leaves during the winter, and together with its tolerance to clipping, this makes beech useful for hedging.

Furniture, ice-lollipop sticks, spoons, planes and mallets are made from beech wood, and cooking oil may be obtained from the mast. Unlike hazel, ash and lime, it does not coppice well.

There is a Hornbeam on the Somerfield car park, adjacent to the Link Road. This species, which is in the birch, alder, and hazel family (Betulaceae), has a very hard wood, and at one time was used to make chopping blocks and mill gear wheel cogs. The leaves of Hornbeam and Beech are similar, although Beech is untoothed, and Hornbeam leaves are somewhat corrugated. Both are used widely as hedging plants.

6) **Yew** *Taxus baccata*

Yew trees are well known for their longevity. Probably the oldest tree in the UK is the Yew at Fortingall in Scotland, said to be 5000 years old. Holy Trinity Church (ST 4662 6990) has four very old Yew trees (page 18 and 21). That to the east, adjacent to Whitesfield Road, has a girth of 235cm.
Pink Yew arils. Technically these are not berries. The seed is very toxic to animals if crushed.

The largest Yew in the centre has a girth of 422cm and the tree furthest to the west has a girth of 375cm (measured at the base since the epicormic growth made it too difficult to measure higher up). The tree adjacent to the Tithe Barn has a girth of 300cm. The height of the largest tree was 870cm. These trees could date back to the time of the founding of the Church in the 15th Century.

Christ Church has a younger male Yew tree (girth 440cm, height 1090cm, ST 4719 7059), probably planted in 1842 when the church was built. In years past, the Yew was an important tree as a source of the wood used in making bows, and, as the foliage was known to be poisonous, the obvious place for it to be grown, yet be inaccessible to cattle, was behind the wall of the churchyard.

The Yew tree (see below) at Goblin Combe has roots that are quite surrealistic in the way that they have been contorted. The nature of the toxins in the Yew leaves has only recently been elucidated (see NHN). Amongst the complex of chemicals (the taxoids) are some that are strongly cardio-active, the taxines, causing death within a few minutes of eating less than 50g. They are predominantly to be found in the leaves and seed, yet the aril (the red fleshy part covering the seed) is free of these poisonous compounds, enabling birds to eat the seeds. Horses, sheep and cattle are highly sensitive to the taxoids, yet deer and rabbits appear to be immune. However, the recent discovery that some of these compounds, the taxanes, can be used in cancer chemotherapy, especially in the treatment of ovarian cancer, has made this tree of great economic importance. The leaves of the English Yew now provide a source of the starting material for the synthesis of the most potent drug (taxol, now named paclitaxel) for the
treatment of this hitherto intractable disease, and
they are used in the chemotherapy of breast cancer
and other malignancies. Paclitaxel has also been
used to coat arterial stents to prevent cells clogging
the channels by inhibiting cell division. Companies
have now been set up (e.g. www.limehurst.com/) that will purchase Yew tree clippings (even paying
to trim the trees!) from which they obtain a precursor, which can be converted to taxol.

7) Redwoods
Near the junction of footpaths W9 with W2 in
Towerhouse Wood, set well back from these paths,
is a young Coast Redwood *Sequoia sempervirens*.
This tree which was first discovered by Archibald Menzies in 1796, near to the coast of California. It
should be distinguished from the Wellingtonia or Giant Redwood *Sequoia gigantea*, (page
19). The leaves of the Coast Redwood are like those of yew, while the leaves of the Wellingtonia are
more like those on Cypress trees. Although both trees
have spongy bark and may grow up to 50m in height,
the Coast Redwood is the more desirable tree, with
good quality wood and the ability to regenerate as
coppice on being felled.

The genus is named after the North American
Red Indian who was the son of a Cherokee squaw (b.
1770) and an English trader named George Giss.
Sequoia became famous as a skilled silversmith, but
his greatest achievement was in devising a phonetic
alphabet for the Red Indian language, eventually used
to print parts of the Bible in their language. He was
also a diplomat and a skilled silversmith. In addition
to the generic name of the trees, he is also
remembered in the name given to one of the National
Parks in the United States.
The cluster of conifers outside the police station on Stockway South includes a Swamp Cypress *Taxodium distichum*. The Wellingtonia *Sequoiadendron giganteum* found here (page 19, girth 400cm, height 18 m, ST 4739 7059) may be relatively young (probably only about 50 years old), although it has the capacity to tower above most other trees at present growing in Nailsea. However the height of many of the trees of this species is limited when they are struck by lightning, before they are able to reach their full growing potential. These trees were probably part of a garden that was incorporated into the landscape of the police station at the time of the expansion of Nailsea in 1968.

8) Other Conifers

Corsican Pines *Pinus nigra ssp maritima* at the Tesco supermarket. See also page 25

Scots Pine *Pinus sylvestris* near the Blue Flame public house ST 448 692
Two trees that are quite common and look similar are the Lawson Cypress *Chamaecyparis lawsoniana* and the notorious Leylandii (*X Cupressocyparis leylandii*). The foliage of Lawson Cypress tends to droop, and this is especially true of the leader. Lawsons Cypress bears cones in profusion (see page 22) while these are rarely seen on Leylandii, and when formed they are almost invariably sterile. The reason for their absence in the latter is due to its origin as an interspecific hybrid which arose in Haggerston Hall in 1888 and 1911 when two N. American species (Nootka Cypress and Monterey Cypress) were grown in proximity. These two species are normally isolated geographically in the western states. Capable of growing in height by up to 1 metre per year, Leylandii is very vigorous, a characteristic of hybrids. This tree is often grown as hedging, although it may be a cause of much dissent between neighbours, and its height in this function is now the subject of some rather unclear legislation.

The Scots Pine *Pinus sylvestris* growing near to the Blue Flame is fairly typical of this tree. It has a reddish bark, and a crown of foliage with few branches on the main trunk. These characteristics make it easy to identify at a distance. The paired needles are 6-7 cm long, much shorter than those of the Corsican Pine *Pinus nigra* ssp *laricio* (or *maritima*), which grows in a cluster near to Sycamore House in the NE corner of the car park (see also page 22). The branches appear in whorls around the trunk at intervals. The Scots Pine is native, but Corsican Pine was not introduced until 1759, and the latter is now grown in large plantations, since the timber is particularly useful.

The Monkey-puzzle tree, also called Chilean Pine *Araucaria araucana*, (although it is not a Pine!), is a native of Chile and Argentina. During his travels in South America, Archibold Menzies,
an early plant explorer, was entertained to a meal in Chile at which he was served some nuts. Unable to identify them, he placed some in his pocket and he germinated these when he arrived home in England in 1795. It soon became fashionable to grow these trees in gardens and it may now be found in many countries around the world. The common name Monkey-puzzle was given by Archibold Menzies.

At Tyntesfield, there is a grove of these trees to the north of the main house, and there is a very large specimen in the main garden to the south. The specimen shown below is in a private garden.

The trees are very hardy and the nuts appear to have the potential for commercial exploitation, since they have a high yield, they are quite large and taste good. Unfortunately the plants take 40 years to produce the first
crop. At least one male plant is needed for every 6 females. As with Ginkgo, it is not possible to sex the plant until it flowers. The seed forms the basic food for the Mapuche mountain tribe in Chile.

The Monkey-puzzle flourished in the mid Jurassic period, 160 million years ago and it was dominant at the time of the dinosaurs. The remains of the trees were buried in the sediment and converted under the high pressure to the very dense mineral known as jet. This is found in large quantities around the Yorkshire town of Whitby, and the local industry produced large quantities of jewellery much favoured by the Victorians.

There are several Deodar Cedars in Nailsea, the best being probably that in Crown Glass Place. A particularly fine collection of conifers and of broad-leaved trees can be seen at Tyntesfield. Many of these trees were planted by the Gibbs family before 1860. The area known as ‘Paradise’ (Arabic for ‘garden’) was planted as an arboretum. Many of the important trees at Tyntesfield have now been mapped and recorded by Tony Titchen.

9) Mulberry Morus nigra
Amongst the many interesting ‘younger’ veteran trees to be found in Nailsea, mention should be made of the Black Mulberry (page 25, girth 175cm height c10 m ST 4689 7080) in the garden of the old Greyfriars Nursing Home,
Leaf mines made by the micro moth *Cameraria ohridella* on the Horse Chestnut tree outside the new vicarage opposite to the entrance to the Methodist Church. This may not be especially old, perhaps up to 100 years, but it is now looking like a veteran, having suffered from the recent building operations on that site. Mulberry often grows with its branches trailing along the ground, as may be seen in the garden of Clevedon Court (ST 423 715), making it appear to be senescent.

The Black Mulberry was introduced to England in 1548, and in 1608 James I encouraged people to grow them in order to establish a silk worm industry in this country. To this end, he distributed seed to all who could grow them, and large numbers were planted in various gardens here. Unfortunately, the Black Mulberry is not favoured by the silk worm caterpillar, which prefers the White Mulberry *Morus alba*, so his hopes were not fulfilled.

At least the fruit of the Black Mulberry is more acceptable as a food for humans! This species is only known from cultivation, and it does not grow in the wild. Most specimens tend to lean (see for example, the tree at Clevedon Court), and this suggests erroneously that the tree is old. However, Mulberries grow fast and age quickly.

Red Horse Chestnut *Aesculus x carnea cv briotii* outside Nailsea Library
10) Horse chestnut

Horse chestnut *Aesculus hippocastanum* was not introduced until about 1610, so it cannot be termed ‘native’, although ‘nativeness’ is a question of degree! The tree outside the Vicarage on Christ Church Close is now quite large, and is covered in its white flowers in the spring. Recently the leaves have been invaded by the larvae of the micro moth *Cameraria ohridella* (page 26), which first entered this country in 2002. The moth is quite insignificant, being only about 6mm long, and the speed with which the moth has moved from the south east makes it likely that it has been carried by vehicles travelling around the country. The affected leaves quickly go brown and drop off. Undoubtedly this attack will weaken the trees, although since it seems to occur late in the season the tree has the opportunity to recover and leaves are usually formed the following year. However such attacks render the tree susceptible to other diseases like bleeding bark fungus *Phytophthora*, a much more serious problem, which is invariably fatal.

The Red Horse Chestnut *Aesculus carnea cv briottii* that grows near to the library is rather susceptible to disease. It is clearly host to the Velvet Shank Fungus (see above), which will probably kill the tree.
11) Walnut
A substantial Common Walnut *Juglans regia* grows at the end of the Tesco car park (ST 4788 7089). Its girth is 225cm and it is 19 m high. The Romans were renowned epicures and are credited with the introduction of the Walnut and the Sweet Chestnut from the Mediterranean about 2000 years ago. Walnut trees produce a naphthoquinone (juglone, see structure on right) that suppresses growth of other plant that try to grow under its canopy (a defence called allelopathy).

12) Mistletoe *Viscum album* (Loranthaceae)
In the autumn and winter, when the leaves have dropped from the trees, it is quite easy to see that some of our trees are hosts to the common Mistletoe. Numerous large spherical growths of this evergreen hemiparasite are often confined to a single tree in a grove, seen especially in the area around Brockley. Since it contains chlorophyll, this plant is capable of photosynthesis and it is not dependent on the tree for carbohydrate, though it must derive its water, nitrogen and minerals from the host. The rate of growth of the Mistletoe is very slow although it seems that some of the ‘spheres’ might be up to one metre in diameter. It can take up to five years for the white berries to be formed, and even then their production depends on the presence of a nearby male plant since this species is dioecious (male and female flowers are on separate plants). There are 1350 species of mistletoe in the world, the name *Viscum* being derived from the sticky ‘glue’ that fastens the seed to the bark of the tree, and
album referring to the white berries. It grows as far north as Yorkshire.

Mistletoe was first associated with kissing at the Greek festival of Saturnalia (a festival later adopted by the Romans), when it was thought to aid fertility. Large quantities are sold at Christmas to supplement the seasonal decorations and often used to give an excuse for affectionate greetings.

Mistletoe is good for wildlife, the berries are eaten by birds, especially the Mistle Thrush, and the evergreen foliage gives good winter protection for a variety of animals. Since it is rarely detrimental to the tree, it is best that it is not eradicated without good reason, or unless it is obviously harming the tree. It is apparently rare for mistletoe to kill a tree, though it undoubtedly can weaken it. Richard Bland in a survey of host trees in North Somerset published in *Nature in Avon* found it growing on 12 different species, but it was not recorded on Oak, Aspen, Ash, or Elm. The most common hosts were Black Poplar, Common Lime, Apple, and Hawthorn, in that order. It also grows on *Robinia*, a notable specimen being found close to the Goblin Combe Environment Centre. In Nailsea, in the winter when the leaves have fallen, two small plants may be seen growing on a hybrid Black Poplar well out of reach on Stockway South in Nailsea. A fairly small Hawthorn to the north of Nailsea also supports it. The decline in records on Apple is probably related to the loss of so many of our orchards.

The berry has viscous mucilage that clings to the beaks of birds that eat them. Birds find it difficult to remove this and rubbing against the bark, they are able to deposit the seed in a suitable germination site. Meanwhile the mucilage causes the seed to be secured on the bark. After a few weeks, the seed develops one or two haustoria (from Latin *Haustus* = ‘to draw’; hence the word exhaust, ‘to draw from’). These are root-like growths that turn towards the bark and eventually penetrate it. My most recent attempts to propagate it on the trees in my garden, appear to have been successful and several of them have now produced haustoria and leaves on the apple trees.
In propagating mistletoe, it is the general consensus that berries should be used fresh, preferably in February or March. Seed that has dried on the twigs over Christmas in a warm room has usually lost viability. There seems to be no advantage in cutting the bark since this may introduce fungi that can antagonize germination. It is said that it is best to propagate it onto the same species on which the parent plant was growing.

13) **Maidenhair Tree** *Ginkgo biloba*
This was flourishing at the time when the coal measures were being formed over 200 million years ago. Nobody realised that it was still in existence until it was discovered in China in 1690 by the German botanist Engelbert Kaempfer, who introduced it to Europe early in the 18th century. It was not found growing in the wild, but it had been protected as a sacred tree in a Chinese temple garden. This species, which is the only representative in the genus, is dioecious, that is, the male and female flowers are on separate trees. Unusually, after pollination, the pollen forms motile spores, which effect fertilisation. This is a very primitive character in plants, reminiscent of the mechanisms found in the mosses, liverworts and ferns. The tree is also known as the Maidenhair Tree because of the similarity of the foliage to...
that of the Maidenhair Fern. The name Ginkgo was given in 1762 by Kaempfer meaning ‘silver apricot’ from the appearance of the fruit.

The fruits have a particularly strong smell attributed to butyric acid. It is resistant to pollution and to attack by fungi and insects. It therefore makes a low maintenance tree and it grows well in cities, being very common in New York. Its brilliant yellow autumnal foliage is especially attractive.

Recent research has cast doubt on the supposed efficacy of Ginkgo extracts in the enhancement of brain activity and memory.

Holly leaf miner *Phytomyza ilicis*

14) **Holly** *Ilex aquifolium*

Our Christmas decorations can hardly be complete without some reference to Holly, which has close associations with the winter, since it is at that time that the bright red berries brighten up our hedgerows.

There seems to be no evidence that the name holly is derived from the word ‘holy’. The earliest reference to the name appears in c1150 when it is cited as ‘holi’, and the connection is probably with ‘Ilex’ the Latin name for the Holm Oak, *Quercus ilex*, that has leaves reminiscent of Holly. This oak is a native of North Africa and Southern Europe, having been introduced to England in about 1500, and widely planted by the Victorians, to be seen especially in Clevedon Court. In Nailsea this tree may be found on the Somerfield car park behind the tattooing shop (page 8). By contrast, Holly is a native plant and it occurs widely throughout Europe and around the Mediterranean. Holly is found in many varieties, as may be seen in the grounds of Tyntesfield and in other public parks. *Ilex x*
**altaclarensis** is a widely-planted ornamental holly (see picture below)

The species name *aquifolium* refers to the sharpness of the leaves (from ‘acus’ a needle, hence the English word ‘acute’) and it has no connection with Latin ‘aqua’ meaning water. Place names beginning ‘holm-‘ are probably derived from Holly and many surnames like Holmes probably also refer to Holly.

Like Yew, Holly is dioecious, that is, when single plants can be either male or female, but not both. It is not easy to determine the sex of the bushes from the flowers appearing in May, which are quite inconspicuous. It is only when the plant produces berries that we can be really certain that it is female. Needless to say, in order to form berries, there must be a male plant within bee reach. Very often in this area, the leaves appear to have brownish marks about 1 cm in diameter (page 31). These are formed by the leaf mining fly named *Phytomyza ilicis*.

The Holly Blue butterfly *Celastrina argiolus* is quite common in this area, the larvae feeding on Holly or Ivy during the summer and on Ivy in the autumn. In 1955 it was said to be uncommon, so this butterfly now seems to be making a comeback.

Holly makes an excellent hedge as may be seen in the road between Wraxall and Cambridge Batch, forming part of the Tyntesfield Estate, where (apart from the gaps caused by aberrant cars!) it is apparently the longest Holly hedge in the world. Holly is evergreen, impenetrable and hardy, characteristics that can be advantageous when used in hedging.

The berries can be toxic to humans causing vomiting and diarrhoea. *Ilex* leaves, however, are apparently not toxic and are used in drinks across the Americas, as many species contain caffeine.

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One species of Holly, *Ilex guayusa*, has the highest caffeine content of any plant. *Ilex paraguariensis* Yerba Mate is the most common daily beverage in much of South America. This is in such demand that the tree is under threat in the wild as it is drunk much like tea in England.
15) Silver Birch *Betula pendula*

Birch trees with silver-grey bark that are a common sight in Nailsea, include the slender Silver Birch. This tree and many of its close relatives are able to survive in very cold climates. The Birch is the national tree of Finland and its range extends to Greenland and the Arctic. Birch belongs to the Betulaceae, the family that includes the Hazel and the Alder.

Birch is a ‘pioneer’ species, establishing itself on bare or poor soil that then becomes sufficiently enriched to allow the growth of other plants. Birch does not cast deep shade on the ground beneath it. Male and female flowers on distinguishable catkins are borne on the same tree. They start to open in April and catkins eventually produce seeds that are dispersed by the wind. Birch seeds have two small wings and differ from their counterparts on the ash and maple trees, which have one larger wing. Birch is very hardy, and was probably among the first species of tree to grow after the last ice age.

In pre-Christian times, Silver Birch was regarded as holy and the practice of birching people with its twigs probably originated with the aim of driving out evil spirits. The twigs were often used as sweeping brooms, known as besoms.

The wood does not differentiate into sapwood and heartwood; its present commercial importance is as a source of plywood and of pulp for paper. Throughout history, in the Northern Hemisphere at least, Birch bark’s stability and imperviousness to water has
provided a variety of significant uses - as a writing surface (parchment), and in roofing, leggings and canoes. Birch tar served as the glue for fixing flint arrowheads to the shafts of arrows, and the sugary sap of Birch trees was fermented into wine.

The bark is white due to betulin, a compound that has anti-microbial properties. Betulinic acid, also found in Birch, will selectively kill certain cancer cells, raising the prospect of Birch trees being an inexpensive source of a cytotoxic drug. Betulin is present in concentrations that can reach 25%. Both compounds belong to the terpenoid group of chemicals whose members consist of isoprene molecules linked together - each isoprene unit containing 5 carbon atoms. Betulin and betulinic acid have a steroid-like ring structure.

Like Willow, Birch contains methyl-salicylate with a chemical structure similar to aspirin. This is the active component of oil of wintergreen, applied externally in the treatment of rheumatic conditions.

As with many other trees, Birch roots are associated with beneficial fungi (mycorrhiza), which mobilize mineral nutrients. One of the mycorrhizal fungal associates in the roots is also sometimes seen as the bright red hallucinogenic Fly Agaric Amanita muscaria.

Birch hosts a variety of galls (abnormal tissue outgrowths) of which the most prominent is witches broom, an aggregate of small twigs caused by a fungus (or sometimes by an insect). Less obvious are galls (in leaves and female catkins) caused by certain species
of midges, mites and moths. These can become host to communities of other insects whose larvae live on the gall tissue or as parasites on the larvae of the creatures that initiated its development. Aging Birch bark can be attacked by the Razor-strop Fungus *Piptoporus betulinus*, growing as white brackets on the trunk. It is named for its use in sharpening razors, and is often found in Towerhouse Wood.

Some Birch trees in Nailsea that have a very bright bark are likely to be the *Betula jacquemontii*, which originated in the Himalayas (see photograph on page 33).

The trunks of Birch trees commonly display narrow horizontal pores in the bark called lenticels, which allow entry of oxygen, also a characteristic of bark in the cherry genus (*Prunus*). When older, the bark of Silver Birch becomes disfigured with dark scars. In North America the trend is for deciduous trees in the more northern forests to have paler trunks. The hardiness in such trees may be aided by the reflective properties of the whitish bark that can protect the surface of the trunk. Birch bark is very rot-resistant, and this might also contribute to the tree’s capacity for survival.

Not all species of Birch have light colored bark and yet these prove to be hardy, suggesting that there it has other mechanisms for survival. Animals that must remain alive in frozen environments possess biochemical mechanisms protecting their cells from damage. These include anti-freeze chemicals, among which can be sugars of low molecular weight. For example Birch sap has a high sugar content (glucose and fructose), and the sugar (sucrose) of the Sugar Maple of North America may function similarly. Some frogs in freezing conditions can generate protective amounts of glucose from reserves of polysaccharide, and frozen potatoes become sweet.

### 16) Willows *Salix* sp

The Levels and Moors around Nailsea are ideal habitats for the Willow tree, of which the most common in this area are Crack Willow *Salix fragilis*, Goat Willow *Salix caprea* and Grey Willow *Salix cinerea*. The tendency of Willow species to hybridise complicates the taxonomy of this genus.

Our ancestors made good use of the willow for the weaving of baskets, and more recently the ability of willow extracts to alleviate pain and headaches has been known for many centuries. The active principle was isolated in 1828 and shown to be salicylic acid. In 1897 a compound now known as aspirin (acetyl salicylic acid) was isolated from *Spiraea* (hence the name) and is widely used, giving rise to the so-called non-steroidal anti-inflammatory class of drugs (NSAIDS).
for cricket bats and as biomass, now used as a sustainable source of energy.

A particularly good example of the Weeping Willow *Salix x chrysocoma* may be found near to the tennis courts in the Backwell playing fields, adjacent to a mature Monterrey Cypress, and another may be found in the grounds of Nailsea School.

**17) London Plane** *Platanus x hispanica*

The London Plane was formed as a hybrid between the Oriental Plane *P. orientalis* from south Europe and the north American Plane *P. occidentalis* in about 1650. The bark is shed in plates giving the trunk its characteristic appearance (page 3). It is well suited to urban conditions, many being planted in Somerset Square and Crown Glass Place. The seeds are produced in ball-like structures. In some years apparently healthy leaves of our Plane trees in Nailsea are lost during the summer following attack by the anthracnose fungus *Gnomonia platani*. The RHS recommends that pollarding is done in late winter or in early spring to avoid fungal infection.

London Plane trees are very resistant to pollution and in many respects make ideal urban trees.

**18) Other trees and shrubs** to be found around Nailsea are shown below. Some of these are widely planted in the Town’s car parks and public open spaces. However, this is only a small selection of the many ornamental plants that may be seen.
Medlar *Mespilus germanica* in Stockway North Nature Reserve ST 4715 7085

Cherry Laurel *Prunus laurocerasus*
In the 19th century when insect collecting was a favourite pastime, killing jars were made from the crushed leaves, producing HCN from the cyanogenic glycosides.

Flowering Cherry *Prunus cv Okame* at the Friendship Inn

*Cotoneaster horizontalis*
Bird Cherry *Prunus padus*  ST 468 709

*Crataegus prunifolia* behind Youth House, Nailsea. This also grows on the Nailsea Village Green (page 46)

Portugal Laurel *Prunus lusitanica* frequently planted on car parks, characterized by the pink stems.

Extra-floral nectaries on Cherry leaves. These probably attract ants that destroy leaf-eating caterpillars
*Pyrus calleryana* cv *chanticleer* outside Tesco supermarket

*Sloe Prunus spinosa* in a hedge near the River Kenn

Sargent’s *Cherry Prunus sargentii* at Sycamore House.
The vivid autumn leaf colour is quite distinctive.

Fruit and leaves of Mitchell’s *Whitebeam Sorbus thibetica*
Rowan berries *Sorbus aucuparia* with the yellow lichen *Xanthoria parietina* on the trunk near to Christ Church

Bramley apple blossom. This widely-grown triploid cooking apple bears a heavy crop with good storage properties.

Alder tree *Alnus glutinosa* on Stockway North Nature Reserve – male catkins

Spindle berries *Euonymus europaeus*
Leaves of the Tulip Tree *Liriodendron tulipifera* in Millennium Park. This is in the *Magnolia* family and originated in North America. Other trees planted in the park include Sweet Chestnut, Lime and Ash.

The Locust Tree *Robinia pseudoacacia* outside the Towerhouse Surgery. Others in the pea family include *Laburnum vulgare* growing on Brockway and *Laburnum alpinum* outside the Wessex Water offices.

Latex threads between the two halves of a split Dogwood leaf *Cornus sanguinea* ST47547 70907

Mock Orange *Choisyternata*. This shrub is in the Rutaceae, the family of the Oranges and Lemons. The crushed foliage smells of oranges.
Oleaster *Elaeagnus ebbingei* frequently planted in Nailsea car parks.

Cordyline *australis* on the Link Road.

Spotted Laurel *Aucuba japonica* on Stockway South. This is also found near to the United Reformed Church.

Bay *Laurus nobilis* near to Sycamore House. The flower buds form in the autumn.
**19) Horse-chestnut Scale *Pulvinaria regalis***
Many trees around Nailsea are colonised by this scale insect, which although unsightly, appears to have little harmful effect on the host. The species probably originated in Asia, and has now spread in north west Europe since the 1960s. It attacks a wide range of woody plants, mainly Horse Chestnut, but also Lime, Maple and Sycamore. The female develops into a scale that protects the eggs (see right). This insect is rarely found on rural trees. There is some evidence for predation by the Harlequin Ladybird.
20) **Ivy Hedera helix**

Ivy (Araliaceae, the ginseng family) is native in the UK and is very widespread in North Somerset, coming second only to nettles in geographical distribution. The name Ivy comes from the Old English ‘Ifig’ meaning bitter, referring to the taste of the berries. It is highly adaptable, growing on walls, up trees and often as ground cover, frequently in situations of low light intensity and low nutrient status. It may suppress the ground flora, and sometimes good management may indicate that it could be reduced to benefit biodiversity. It is not usually necessary to remove Ivy from trees, unless the growth makes the tree top-heavy and liable to windthrow. The evergreen leaves are unlobed on flowering shoots and typically bear three or five lobes on vegetative shoots. The fertile shoots that are produced in situations of high light intensity lack the adhering rootlets and tend to project at right angles to a supporting tree. The leaves are eaten by horses, deer, sheep and cattle.

Despite the perception of the general public, Ivy is not parasitic, and it uses its stem roots merely to adhere to walls and the trunk of trees. The flowers, which have no petals, are used as food by the autumn brood of the Holly Blue butterfly. I have watched these butterflies laying eggs on the Ivy in my own garden. Ivy berries also provide food for many birds throughout the winter, when it is an ideal roost for birds and many invertebrates. In the Autumn it produces flowers that are rich in nectar and that attract many insects, particularly hoverflies and wasps.

If you happen to look up Ivy on an international web-based search engine, you will find that many of the references give advice on ‘how to eliminate English Ivy from your garden’. Ivy was introduced into the United States and now grows particularly well in the East and West coastal states, and it also flourishes in Australia and New Zealand. This is rather like the situation with our Purple Loosestrife, a very attractive plant seen occasionally in damp situation in the United Kingdom, but which has taken over large areas of wilderness in the USA since there appears to be no natural means of controlling it there. This shows how careful we must be in transferring plants to new territories.
There are now many ornamental varieties, grown decoratively in our gardens where it is also useful for ground cover. The leaves are rich in terpenoids, and are not attractive to slugs. The leaves and fruits contain the saponic glycoside hederagenin, which if ingested, can cause breathing difficulties and coma. The sap can cause dermatitis with blistering and inflammation. This is apparently due to the presence of polyacetylene compounds.

There are two native species in the UK – *Hedera helix*, and *H. hibernica*, the latter found more frequently in the west of North Somerset. They are not easily distinguished. *H. hibernica* has hairs that are pale yellowish brown with some leaves greater than 8 cm across and lobed less than half way to the base. The *H. helix* has whitish hairs, leaves often less than 8 cm across with lobes more than half way to the base. The crushed leaves of the Irish Ivy have a sweet smell, unlike our common species. *H. hibernica* probably arose in Ireland as a tetraploid, with double the normal number of chromosomes. *Orobanche hederae*, the Ivy Broomrape, a leafless plant that grows as a parasite of Ivy and which is found in several parts of Nailsea including my own garden, is said to favour the *H. hibernica* (see NHN).

21) Staking trees.
The first season after planting a tree can be crucial for its well-being for the rest of its life. Correct staking is often necessary to prevent wind loosening the roots, and it also acts as a minor deterrent to vandalism. If the tree becomes detached from the stake, rubbing may damage it. The way in which the tree is attached to the stake can also be important. Trees grow, and often the tie constricts the
trunk, checking the growth of the tree (page 45). Regular inspection of trees to prevent damage of this kind after planting may be done easily by Tree Wardens, and this action can prevent premature loss of trees, saving much money incurred by replanting.

22) Labelling Trees
In order to encourage interest by the general public in trees, it is sometimes appropriate to identify them by means of labels, a method often adopted in arboreta. How much more interest could be gained by learning some of the rudiments of nomenclature, even if it is only by the common names? In Nailsea we have been trying out various methods for labelling trees, in the knowledge that the labels must be resistant to vandalism and the elements. In an early project, we tested ‘Kew’ labels provided by Tony Titchen. These are made of a multilayered plastic into which is inscribed both the Latin and common names, together with the family and probable date of planting. These were fastened to the tree with stainless steel nails driven into the trunk. These labels look good, but they are quite expensive. They are easily broken, and when the tree grows, the bark is forced against the label, which bends and eventually breaks. They are also not vandal proof and the fact that they need to be fixed well above ‘reach height’ means that the names can be difficult to read.

In our next attempts, labels were made from Oak plaques 1 cm thick, about 6 cm x 12 cm using a felt tipped pen to write the names on the labels, which seemed fairly permanent. The oak plaques were quite light in colour initially, but gradually weathered to become darker, and this made it more difficult to read the writing.

The labels were fastened to the trees using plastic nails driven into holes drilled into the trunk. In our experience the growth of the tree could also break the head from the nail, and if this method is adopted, it might be suggested that either the nail is left very loose in the hole, or that a long length of nail shaft remains beyond the label to accommodate the growth for several years. One particular advantage of this method is that the labels and nails are inexpensive and easy to replace if they are vandalised. It is particularly important that nails will not damage chain saws used to eventually cut the tree when it is felled, and for this reason aluminium nails may be used, though these
are difficult to drive into hard woods as they bend rather easily. Similar problems are encountered in fixing nesting boxes to trees.

In making labels in this way, an alternative to Oak wood may be Sycamore, which is lighter in colour, but which may require preservative. ‘Dymo’ labels appear to be fairly resistant to weathering and may be fixed to the surface of the wooden plaques if the original lettering becomes difficult to read. Others have engraved the names on strips of stainless steel or aluminium.

Experiments using labels with computer-printed names on paper have proved to be encouraging. These are laminated, leaving a margin of sealed plastic around the label to prevent entry of water. Holes can be punched in the plastic for the attachment of the label to the tree. If wire is used, it is best to attach this to the label only loosely so that the tree when it grows is not constricted by the wire. These labels are inexpensive, they can be used to show much information about the tree and they can be printed in more than one colour. They appear to be quite unchanged after several seasons, so they might last for many years, and they are easily read even if placed well up the tree.

Recent experience suggests that the labels will be more permanent if they are produced using a laser printer, with carbon toner, rather than an ink jet printer. Also to overcome the need to drill or nail the trunk of the tree, or to use wire, it might be possible to tie the labels using standard nylon fishing line that is quite unobtrusive and is unlikely to damage the tree. The line may be fastened to the label by inserting it into cuts made in the laminated plastic.

With the trees labelled, the next step is to create a guide to give basic information about the trees and to show a route that can be walked to include significant trees. We have done this for the trees around the centre of Nailsea, including a map, and the text is now available on the website www.nailseanature.org.uk/
23) Tree measurement

Girth is measured with a tape or cord at about 1.5 metres from ground level. It is said that each inch of girth of an Oak tree represents one year’s growth, though this is only an approximation.

A simple triangulation system is used to measure height. A straight rod, a little longer than the arm, is held in the hand with the arm outstretched and pointing towards the shoulder. It is very convenient to use a steel tape measure for this. The length is adjusted so that it reaches from the hand on the outstretched arm to a point in line with the position of the eyes. While maintaining this length, on turning the rod (or tape) vertically, the surveyor moves backwards and forwards until the base of the tree is in line with the lower end of the rod in the hand, while the upper end of the measuring rod is in line with the top of the tree. The distance from the base of the tree to the position of the surveyor is then equal to the height of the tree. One problem in using this method is that it is not easy to know the highest point on the tree, as viewing takes place at 45° from the ground, and it is sometimes difficult to see the top of the tree. For the same reason it is difficult to measure heights of woodland trees using this method.

Geographical position is determined either from maps, or more precisely by the use of a hand-held GPS unit that allows the position to be established on the basis of the National Grid Reference (NGR). If tree cover makes satellite reception difficult, a point as close as possible to the tree is used and a small correction applied. For the 8 figure NGR the last digit represents 10 metres, which is usually sufficiently accurate, when linked to a description, in defining the position of a tree. In the vicinity of Nailsea the NGR is prefaced by ‘ST’ designating the 100km square within which Nailsea is located. For a six-figure NGR, the last digit represents 100m.
Websites
Forest of Avon http://forestofavontrust.org/
Nailsea Environment & Archaeological Team www.neat.btck.co.uk
Nailsea Environment & Wildlife Trust (NEWT) www.newt.btck.co.uk
Nature in and around Nailsea www.nailseanature.org.uk
Tree Council www.treecouncil.org.uk (for information on the National Tree Wardens’ scheme)
Woodland Trust www.woodland-trust.org.uk

Local contacts
Nailsea Town Council; Ian Morrell www.nailseatowncouncil.gov.uk 01275 855277
North Somerset Council; Tree Wardens, Tree Officer ian.monger@n-somerset.gov.uk 01934 426989
‘Nailsea in Bloom’; Martyn Davis martynjdavis@btinternet.com 01275 855563

Selected reading
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Johnson, Owen and More, David, Collins Tree Guide 2004
Lipscombe, M. and Stokes, J., Trees and how to grow them; The Tree Council 2008
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Shaw, John, Tree hunting and walking in North Somerset 2004
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Strouts, R.G. and Winter, T.G., Diagnosis of ill-health in trees; Forestry Commission 1994
The essential guide to the diseases of amenity trees
Tree News; The Tree Council, issues published at six monthly intervals
A high quality guide with excellent illustrations to contemporary issues in tree management
Tudge, Colin, The Secret Life of Trees; Penguin Books 2005 Almost everything about trees
A series of articles reviewing the status of ancient trees around Bristol
Ancient Crack Willow *Salix fragilis* in Birdcombe Valley.