

Philips Park is thought to have been part of medieval Deer Park, known as Pilkington Park before becoming home to Manchester merchant, Robert Philips in 1799. The woodland covers approximately 20 hectares and contains more than 32 species of tree. This booklet will guide you on a trail showing 16 of those species, and give you some of the fascinating details of their ecology, mythology and uses as well as some of the wildlife that depends on them.



Marker posts close to the track will help you find each tree. An arrow on the post points you in the right direction.



The Park from the grass walk in the formal garden





1 Ash (*Fraxinus excelsior*)

The ash is the fourth most common species of British woodlands. It likes limestone and rich spoils where few other trees will grow.

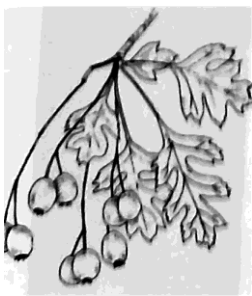
On moist sheltered and well drained lowland site, the ash is fast growing with the highest nutrient uptake of any trees. The ash is nearly always the last native tree to come into leaf. Usually in May, and the first tree to drop its leaves in Autumn.

The seeds of the ash are winged and are often referred to as 'keys'. The leaves of the common ash are made up of 9-16 leaflets and are described as 'pinnate'. As the ash's foliage is relatively sparse, even in midsummer, a wide variety of flora is able to grow underneath it. When not in leaf, it can be readily identified by the distinctive black buds that can be found on its branches and shoots.

Ash wood is very strong and flexible, but not durable when in contact with the ground. It was traditionally used for toll handles, furniture, sports equipment, walking sticks and in the days before plastics and metal alloys, wheel rims, and the frames of horse-carts, cars, buses and aircraft.

In Norse mythology the ash was attributed with mystical as well as medicinal properties, it was believed that if a sick child was passed through the cleft of an ash tree, it would be cured.

2 Hawthorn (*Crataegus*)



Hawthorn wood is hard and tough, and yellowish-pink in colour. The Latin name *Crataegus* is derived from *kratos* which is Greek for strength. The wood is used for fine work of various kinds, including veneer and cabinet work. For centuries the haw and hawthorn flowers have been used to make a variety of jellies, wines, liqueurs and ketchups.

After huge losses some hedgerows are now protected under law with grants available to reinstate them. Hedgerows are hugely important to wildlife, as they act as 'green corridors' enabling animals to travel from one area to another in comparative safety from predators to forage for

food.

Hawthorn has perhaps more connections with ancient beliefs and traditions than any other tree. It is linked with pagan and medieval rites to greet the advent of Summer. This legend probably arose because hawthorn blossom in mid-May around May Day in the unreformed Christian calendar.

3 Beech (*Fagus sylvatica*)



The beech is a deciduous tree that can grow up to 40 metres in height. The beech is widely distributed throughout England, in mixed broadleaved woodland and also as pure woods of beech. It has also been widely planted beyond its natural range throughout North England and Scotland. These beech woods have some fungi and other associated flora and fauna exclusive to this particular habitat. There are many fungi associated with beech trees. In particular several edible species of *Boletus*, *Russula* and *Lactarius* which also occur on Oak.

At Philips Park there are some fine, mature specimens which are approximately 200 years old. The fruit are the familiar triangular brown nuts which fall between September and October and are contained in a bristly, brown 4 lobed husk. The leaves of the beech are arranged alternately in two rows along the shoot and are oval to elliptic in shape and pointed leaves are veined with 5 to 9 pairs of lateral veins

The Beech wood is white and very heavy when newly felled with distinctive flecks. It is one of the strongest native timbers and is used for furniture making, flooring, sports equipment toys and kitchenware.

4 Holly (*Ilex aquifolium*)



The holly is an evergreen shrub or small tree and can grow up to 10 metres in height. It often forms the undergrowth in woods as it is shade tolerant preferring moist, rich soils. The leaves and the fruit are instantly recognisable. The fruit, a round, red berry 7 - 10mm across appears during September to October and often stays on the tree over the winter providing an important source of food for birds. The tree is found in separate male and female forms, a condition described as dioecious. The leaves are very variable in shape, but are stiff and leathery oval, pointed and usually with sharp spines. In spite of its prickly leaves, it is grazed by deer and the upper foliage of mature trees and the leaves of saplings provide nutritious and apparently highly palatable fodder for domestic animals. Historically, it was coppiced and pollarded for this purpose. The Holly Blue butterfly, commonly found on Philips Park, feeds on the Holly and it is the main larval food plant of the caterpillar. Holly wood is white and stains and polishes well and is often used for inlay work on decorated furniture. It can even be stained black and used as a substitute for ebony which makes it ideal for making chessmen and other wood carving. Holly is one of the ancient symbols of the mid-winter festival and has been incorporated into the Christmas celebrations.

5 Birch (*Betula pubescens*)

There are two species of birch in the British Isles: silver birch (*Betula pendula*) and downy birch (*Betula pubescens*), both of which can be found on Philips Park. Birch was one of the earliest colonisers after the last Ice Age. it is a hardy, pioneering species and can take root readily in poor soils, its small leaves and thin canopy allow light to penetrate to the floor so that birches provide nursery conditions for the oaks, elms, limes, etc. The birches are fast growing but die after a short life cycle of around 100 years, leaving the underlying trees to grow up and take over. Birch is so successful that it is the second most common broad-leaved tree in English woodlands. Birch plays a key part in woodland regeneration being the first to populate large clearings which are created during tree felling.



The birch Supports a highly diverse fauna of at least 334 plant eating insect species, only oak and willow support more. Several species of moths are also dependent on birch and there are a large number of fungi associated with it, some exclusively for example the birch polypore.

Birch is also a very important source of standing dead wood provides a habitat for many invertebrates, and consequently provides a source of food for birds such as woodpeckers and owls. Birch's toughness is comparable to that of ash, and it was formerly used in large quantities in the Lancashire cotton industry to make hard wearing bobbins, spools and reels.

In medieval times, a bundle of birch rods was carried in front of the magistrate on his way to court, both as a symbol of his authority and as a means of correction. Its use as an instrument of punishment probably originates in the need to drive out evil spirits.

6 Oak (*Quercus robur* & *Quercus petraea*)

The oak is the most common native tree of British broad-leaved woodlands today. There are many species of oak, two of which are indigenous to Britain: English or Pedunculate oak (*Quercus robur*) which is more common in the south-east and central parts of England, and sessile or Durmast oak (*Quercus petraea*) which is more characteristic of the northern and western parts of Britain. Oak is a pioneer species, doing particularly well on infertile and acidic soils.



The fruit is the familiar acorn. Acorns are first produced after around 40 years, with seed production reaching a maximum between 80 and 100 years. Oaks only tend to fruit very abundantly in mast years which occur every six to seven years. The Jay, a familiar and brightly coloured woodland bird is largely responsible for the spread of oak trees as it habitually buries acorns to last it throughout the year. The acorns that are not retrieved then grow into trees to supply future generations of jays with acorns.

Of all British trees, oak supports the widest variety of insect and other invertebrate life. Some 500 plant eating species are specifically associated with oak and many of these are moths. There is a wide variety of other insects including plant bugs, flies, beetles and spiders. Dead and rotting oak wood, especially on ancient trees, contains many species dependent on the habitats found only in these grandfather oaks. Oak also forms many different types of galls, including the familiar oak-apple gall caused by a cynipid wasp. More fungi are associated with oak than any other native tree and many species appear restricted to these trees.

Oak has been the predominant timber tree throughout Europe since the earliest times. Tree rings have shown that oak was in general use for construction in Germany as long as 9000 years ago. It is one of the most widely used hardwoods in Britain, especially for interior Joinery work and paneling, as well as for furniture. It is extremely durable and lower grade oak is used for fencing, mining timber, gates, etc. Since it also bends well and is impermeable it is still used in boat building.

Tannin obtained from oak bark has traditionally been used by the leather Industry. Today in short supply and is worth several hundred pounds per ton to tanners of high-class leather.

Acorns were once a very important source of food for livestock and were used to feed pigs that were turned loose in the forest in autumn This was known as a right of 'pannage' and is still maintained by commoners living in places like the New Forest.

The oak has been one of the most important elements of folklore throughout Europe since the earliest times. The name 'Druid' means 'oak man'. The oak was sacred to many ancient peoples. Oak trees are often split by lightning, possibly because it is frequently the tallest tree around, so it was often associated with the gods of thunder.

The wych elm is an indigenous tree occurring in woods and beside streams mainly in the west and north of the British Isles, and especially in hilly districts. 113 species of plant eating insects have been recorded from elm species, together with 11 other invertebrates. With the decline of the elm population, many of these species have been affected, such as the attractive White-letter Hairstreak which has become very rare. This butterfly breeds on mature trees or abundant sucker growth near dead trees. With the reduction of mature elm trees it appears to have adapted to younger elm growth.

English elms trees were one of the most abundant and characteristic trees of the English countryside until the population was decimated in the 1970's by Dutch Elm Disease. This is caused by a pathogenic fungus (*Ceratocystis ulmni*), spores of which are carried by various species of elm bark beetles.

There are no mature English elm present on the Park.

The difficulty with managing elms that once the elms reach a certain size, the bark starts splitting and thus the elm bark and thus the elm bark beetle can get in and start laying its eggs under the bark.

Elm was formerly used a great deal for furniture, such as Windsor chairs. it bends well and resists strains that split other timbers. It is durable for exterior use, especially if kept wet. Before metal water pipes were made, many towns had elm water mains. Elm is still used in boat building for keels, rudders and for trawler boards and bobbins in the fishing industry. The disadvantage of its use for furniture and joinery is that it is attacked by many destructive insects such as the deathwatch beetle.

8 Poplars



The Poplars that can be found growing along Bradley Brook in Philips Park are a variety of Black Poplar, although they are not the rare native black poplar (*Populus nigra* subspecies *betulifolia*) which is now endangered.

The decline of black poplars in Britain is thought to be due to a number of factors, the main one being the hybridisation (cross-breeding) with non-native poplars which were introduced to this country in the mid 1700's.

They do not possess flowers in the traditional sense of petals and sepals but are arranged like willow, in catkins. There is little therefore, to attract insects and pollen distribution is entirely by wind. Poplars occur as both male and female trees which is described by the term 'dioecious'. Poplars have a preference for damp, wet areas and are often found growing alongside willows beside rivers and streams, in hedgerows or in large gardens.

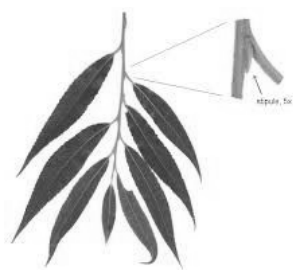
The Poplar is a deciduous tree growing up to 30 m tall with a strongly ridged bark. The leaves are alternate rounded 5-10 cm long, and narrow abruptly into a short point. They are hairless, dark green above and paler below with blunt teeth along a clear margin.

In folklore, the poplar was considered to represent fertility perhaps due to its fast rate of growth and the trees were often dressed as part of wedding ceremonies. As a fast growing hardwood, the timber is of little value commercially although it has been used traditionally for making clogs and for flooring as it does not shed splinters easily.

9 Willow (*Salix*)

There are many different species of willow. They are particularly common in the lowland areas of the British Isles, especially along river banks. There are a number of species of willow present on Philips Park including Goat Willow (*Salix caprea*), Common Osier (*Salix viminalis*), Crack Willow (*Salix fragilis*) and White Willow (*Salix alba*).

Willows support a large number of plant eating invertebrates and this includes 162 different butterflies and moths, and 104 bees and wasps. There are a number of fungi that are associated specifically with willow, for example the large cushion-like grey bracket fungus (*Phellinus ignarius*) on the tree trunks.



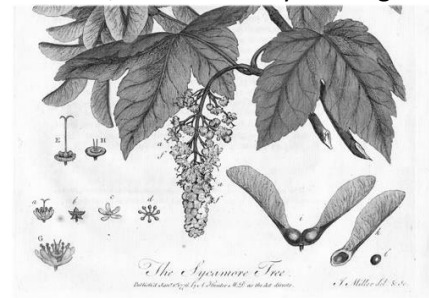
The feathery covering of the seeds, called willow down, used to be collected for stuffing mattresses. Traditionally willow is used to make cricket bats for which the best wood comes from a variety of *Salix alba* called *coerulea*, which is fast growing and straight grained. The main commercial use of willow is in basket making. Willow has always been used to protect against diseases caused by damp conditions. The bark and leaves contain salicylic acid, which is a good painkiller and the source of aspirin. In early biblical times willow was emblematic of

rejoicing and celebration. Being bitter to taste, it soon became associated with romantic sadness or even mourning. In temperate climates, willow is used instead of palms on Palm Sunday.

10 Sycamore

We can't be certain if Sycamore is indigenous to Britain or was introduced. It was commonly thought to have been introduced from central Europe some time during the fifteenth or sixteenth century, or possibly as early as the Roman times. However there is some evidence that it is in fact a native species which established itself soon after the last Ice Age.

The leaves get a honeydew coating, produced by aphids, which like lime, leaves a tacky coating on the bonnets and windscreens of parked cars. Sycamore leaves are often stained with black patches caused by the tar-spot fungus *Rhytisma acerinum*, which is unsightly but fairly harmless. The sycamore's winged fruits are known as "locks and keys" or "helicopters". The tree has been much criticised by nature conservationists for invading what is termed typical British woodland and shading out native species and ground flora. However, the tree does have positive contributions to indigenous wildlife. Despite the initial sliminess of the fallen leaves, they decay very rapidly and boost earthworm populations.



Flower species characteristic of ancient woodland, such as woodruff and wood anemone, also thrive perfectly well on soils under sycamore. It is not particularly rich in insect species, but it makes up for this by having the highest insect productivity by weight (chiefly aphids) of any widespread tree. This is especially important in urban areas, where sycamore may be the only significant source of food for airborne insect-feeders such as house martins.

However, given the right circumstances, sycamore can dominate a woodland to the extent that opportunities for other species of tree and ground flora are limited. This has occurred in parts of Philips Park. but by thinning out the sycamores in several areas other species have been given a chance. The improvement in the habitat soon becomes apparent with much greater diversity of trees. as well as the other wildlife which depends on it.

The wood is clean and pale. and valued by wood turners It has no odour to taint food processed on it and a fine grain so that it can be easily cleaned. Tables. rolling pins, wooden spoons and chopping boards are often made from it.

11 Hazel



Hazel was one of the first trees to re-colonise Britain after the last ice-age coming soon after Birch. It is the classic 'coppice' tree. Coppicing is where the trunk is cut off at ground level and the tree is allowed to regrow from the stump. This benefits conservation and the shrub layer of the forest while providing a renewable source of wood. Hazel rods and sticks are pliable and tough and are used for a wide variety of products. Hazel poles can be split lengthways, twisted and bent at sharp angles without breaking. This enables them to be woven, bent back on themselves and even tied in knots. This makes them very suitable for weaving baskets, hurdles, fencing, and heatherings. Heatherings are used in the traditional method of binding a hedge after it has been laid. Hazel is popular with carvers

and whittlers for producing decorative walking sticks. The fruits are the familiar hazel-nuts favoured by wood mouse, bank vole and nuthatch. Hazel has 106 species of Insects and mites associated with it, and several fungi.

The hazel is considered to have magical Properties in popular folklore. In mythology the hazel was associated with knowledge and wisdom and for water-divining.

12 Alder

The alder is a characteristic tree of wet places, marshes and streams sides. Like birch, alder is wind pollinated and the green catkins release pollen early in the season, from late February to early April. The catkins become woody and cone like when ripe a year later and drop their seed when shaken by the wind. The seed is distributed by wind and by floating on water. The leaves are dark green, rounded and slightly concave at the tip, with 5-8 pairs of lateral veins.

All alders can fix atmospheric nitrogen by means of root nodules containing a bacterium. This gives the tree a great advantage for colonising very poor soils and alders have been used to reclaim spoil heaps and other industrial waste sites, where they add fertility to the soil. Alder foliage is highly palatable to insects and 141 plant eating insects have been associated with it. The timber decays quickly if used for fencing but is very resistant to decay under water and has been used for piles under bridges and houses. Alder coppices well and the wood makes excellent charcoal and was the mainstay of the gunpowder industry in the past. Traditionally it was the best wood for making clogs. In Norse mythology, March was known as 'the lengthening month of the waking alder' a period of fasting known as Lent, later adopted by the Christian Church as the period leading up to Easter.



13 Dead wood is one of the most important elements in the ecology of a woodland. In a natural woodland up to 60% of the wood would be dead, either still standing or lying on the ground. A vital component of any woodland, it provides a habitat for many species of insects and their larva that feed on the dead wood. These invertebrates are fed upon by other insects, birds and mammals. Birds and mammals also use dead wood as nesting sites in the holes and hollows of the tree. Many fungi mosses and lichens are also associated with dead wood. The slow decay of the dead wood completes the cycle of the woodland as the decaying tree returns the nutrients back into the soil that it took during growth and so can be reused by the new tree saplings will replace it.

The standing dead tree is a Beech and there are a number of small holes in the trunk which have been made by birds searching for insect larvae in the decaying wood. The large hole near the top of the trunk may have been made by a woodpecker as a potential nest hole. Closer inspection of the trunk will reveal even smaller holes made by the insect larvae themselves emerge from within the wood as adult insects.

14 Lime

The two species of lime which are indigenous to Britain, small-leaved lime (*Tilia cordata*) and large-leaved lime (*Tilia platyphyllos*), and have been cross-bred to form common lime more common of the two and was once the commonest tree throughout the primeval woodlands of lowland England. The common lime has been widely planted since the 17th century when lime avenues became popular in towns, parks and estates. It is the common lime that grows on Philips Park.

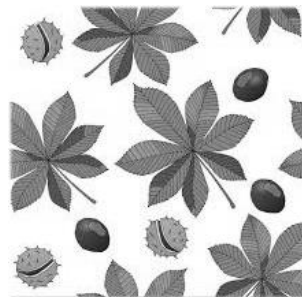


The lime is both one of Britain's longest living and tallest trees. When they are flowering, the emergent tops of the trees turn pale yellow and swarm with insects, especially bees and hoverflies. The lime is an important source of nectar for honey, and is host to 53 plant eating insects.

Lime wood is pale soft and cuts very cleanly. It has been a favourite with wood carvers since at least the middle ages and was once used to fashion shields. Larger poles were stripped for "bast" the fibrous layer between bark and greenwood. This is twisted into ropes and nets.

15 Horse Chestnut

The Horse Chestnut is probably one of the most easily recognised trees, otherwise known to many children as the conker tree. It was introduced around the beginning of the 17th century in Britain as an ornamental tree due to its spectacular *white* flowers appearing in May and June. It is native to North Greece *and* Albania although it has long been cultivated in other parts of Europe. The tree has adapted well to the climate in *Britain and* it prefers rich, deep, moist sandy or loamy soils.



The leaves of the Horse Chestnut are distinctive largely due to *their* size *and* arrangement. Each leaf grows from a long stalk *with* 5-7 leaflets up to 25 cm long and radiating from a central point. This leaf arrangement is described as palmate.

The fruit is green and covered with flexible spines and contains the shiny, brown seeds or 'conkers'. The seeds are often produced in abundant numbers with up to three per fruit and are found on the tree from September to October.

Many of the Horse Chestnut trees found on Philips Park were deliberately planted by members of the Philips family along the avenues and paths during the heyday of the ornamental and formal gardens.

16 Rowan

Rowan is a fast growing pioneer tree species and grows to an average height of 15 metres. It is widespread and common. The tree's alternative name, Mountain Ash, reflects the fact that it grows higher up the mountain sides than any other native tree.

The tree has heavily scented flowers which are visited by many insect species and its fruits are a major source of food for birds such as Redwing, Mistle-thrush and Blackbird. The leaves are palatable only to snails and grazing animals.



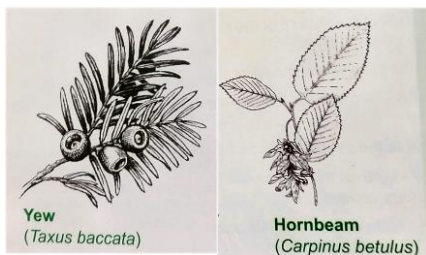
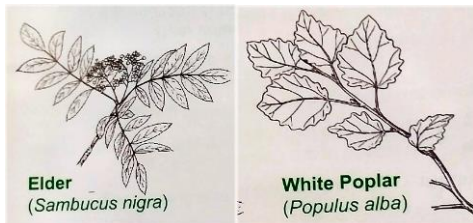
The red berries of the Rowan can be made into a jelly that is eaten with game and they are a rich source of vitamin C, which was made into a drink to prevent scurvy. The strength of it's timber means that it has traditionally been used to make tool handles, spinning wheels and, if large enough, for planks and beams.

It is also a tree featured frequently in mythology, where it's protective properties were used on humans, livestock and buildings this was done by planting a Rowan outside house and in churchyards to ward off witches,

Tree species not covered by this leaflet:

- White Poplar
- Norway Maple
- Hornbeam
- Elder
- Yew

Why not see if you can find some of them?





Autumn leaf ID

How many trees can you identify?

Autumn leaf ID



✓ Elder



✓ Lime



✓ Hawthorn



✓ Beech



✓ Silver birch



✓ Horse chestnut



✓ Sycamore



✓ Field maple



✓ Oak



✓ Hazel



✓ Willow leaf



✓ Rowan



Red leaves can be caused by sunny, dry days and cold nights; yellow leaves can be caused by cloudy and rainy days.

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