

# Mulberry, Common

**Botanical: *Morus nigra* (LINN.)**

**Family: N.O. Artocapaceae**

The Common or Black Mulberry is not one of our native trees, but with several other members of its genus - which contains a dozen or more species - can be grown without protection in the south of Britain. There they are small bushy-headed trees, with large alternate, deciduous, toothed and often variously lobed leaves. It is by no means unusual for a Mulberry tree to produce leaves of several different shapes, or differing considerably in outline. As a rule, abnormalshaped leaves are produced from stem-shoots or sucker growths, and frequently by very vigorous young branches. The Chinese White Mulberry (*Morus alba*, Linn.), cultivated in other countries as food for the silkworm, is even more variable in leafage than the Common Mulberry, and quite a score of different forms of leaf have been gathered from a single tree and several from one shoot. Both species contain in every part a milky juice, which will coagulate into a sort of Indian rubber, and this has been thought to give tenacity to the filament spun by the silkworm.

## Description

The Common Mulberry is a handsome tree, 20 to 30 feet high, of rugged, picturesque appearance, forming a dense, spreading head of branches usually wider than the height of the tree, springing from a short, rough trunk.

It bears unisexual flowers, the sexes in separate spikes, or catkins, which are small, more or less cylindrical and in no way beautiful. The oblong, short-stalked 'fruit,' which when ripe is about an inch long and of an intense purple, is really a fruit-cluster, composed of little, closely-packed drupes, each containing one seed and enclosed by the four enlarged sepals, which have become succulent, thus forming the spurious berry. By detaching a single fruit from the cluster, the overlapping lobes of the former perianth may be still discerned.

Mulberries are extremely juicy and have a refreshing, subacid, saccharine taste, but they are devoid of the fine aroma that distinguishes many fruits of the order Rosaceae.

## Habitat

The tree grows wild in northern Asia Minor, Armenia and the Southern Caucasus region as far as Persia and is now cultivated throughout Europe. It ripens its fruits in England and also as far north as Southern Sweden and Gothland. It flourishes more in the southern part of Great Britain than in the northern counties, but is always of slow growth. Gerard describes it as 'high and full of boughes' and growing in sundry gardens in England, and he grew in his own London garden both the Black and the White Mulberry. Lyte also, before Gerard, in 1578, describes it. It is definitely known to have been cultivated in England since the early part of the sixteenth century, and possibly long before, it being considered probable that it was introduced into Britain by the Romans, being imported from Italy for the soldiers' use.

The Black Mulberry was known in the whole of Southern Europe from the earliest times, and it is presumed that it was introduced from Persia. It is mentioned by most of the early Greek and Roman writers.

The Romans ate Mulberries at their feasts, as we know from the *Satires* of Horace, who (*Sat. ii.*) recommends that Mulberries be gathered before sunset. We also find mention of the Mulberry in Ovid, who in the *Metamorphoses* refers to the legend of Pyramus and Thisbe, who were slain beneath its shade, the fruit being fabled to have thereby changed from white to deep red through absorbing their blood. By Virgil, the tree is termed *sanguinea morus*. Pliny speaks of its employment in medicine and also describes its use in Egypt and Cyprus. He further relates:

'Of all the cultivated trees, the Mulberry is the last that buds, which it never does until the cold weather is past, and it is therefore called the wisest of trees. But when it begins to put forth buds, it dispatches the business in one night, and that with so much force, that their breaking forth may be evidently heard.'

It has been suggested that the generic name of the Mulberry, *Morus*, has been derived from the Latin word *mora* (delay), from this tardy expansion of the buds, and as the wisest of its fellows, the tree was dedicated by the Ancients to Minerva. In alluding to the Black Mulberry, Pliny observes that there is no other tree that has been so neglected by the wit of man, either in grafting or giving it names. It abounded in Italy at that time, as a reference in Virgil's *Georgics* (II, v. 121) clearly shows. The excavations at Pompeii also bear witness to this, for, in the peristyle of the 'House of the Bull,' a Black Mulberry is represented. Mulberry leaves are also to be found in a mosaic from the 'House of the Faun.' Schouw, who wrote about the plants of Pompeii in 1854, considered that *M. alba* was unknown to the Pompeians. At the time of Virgil (who died in 19 B.C.) silk was held to be a product of the Mulberry leaves, the work of the silkworms not being understood. Silkworm culture was first introduced by Justinian from Constantinople - he ruled from A.D. 527-65. In Italy the Black Mulberry was employed for feeding the silkworm until about 1434, when *M. alba* was introduced from the Levant and has ever since been commonly preferred.

References in various old Chronicles show that the Mulberry was far more esteemed in ancient times than at present. It was included among the large number of useful plants ordered by Charlemagne (A.D. 812) to be cultivated on the imperial farm. The cultivation of the Mulberry in Spain is implied by a reference to the preparation of Syrup of Mulberries in the Calendar of Cordova of the year 961.

There are many famous Mulberry trees in England. Those of Syon House, Brentford, are of special historical interest and include what is reported to be the oldest tree of its kind in England, said to be introduced from Persia in 1548. It is this particular and venerable tree which forms the subject of an illustration in London's *Aboretum and Fruticetum*. Although a wreck compared to its former self, it is regarded as one of the largest Mulberry trees in the country. Its height is given by Loudon as 22 feet, and additional interest is attached to this tree, as it is said to have been planted by the botanist Turner.

In 1608 James I, being anxious to further the silk industry by introducing the culture of the silkworm into Britain, issued an edict encouraging the cultivation of Mulberry

trees, but the attempt to rear silkworms in England proved unsuccessful, apparently because the Black Mulberry was cultivated in error, whereas the White Mulberry is the species on which the silkworm flourishes. A letter was addressed by the King to the:

'Lord Lieutenant of the several Shires of England urging them to persuade and require such as are of ability to buy and distribute in that County the number of ten thousand Mulberry plants which shall be delivered to them at our City of -, at the rate of 3 farthings the plant, or at 6s. the hundred containing five score plants.'

The following transaction is mentioned in the College accounts at Cambridge: 'Item for 300 mulberry plants, xviii. s.' This was in 1608-9, the date of Milton's birth, so that the old Mulberry tree growing in the grounds of Christ Church, Cambridge, still bearing excellent fruit, which is reputed to have been planted by Milton, is still older, probably the last of three hundred which cost the College 18s. in 1609.

There is another Mulberry tree still standing near the Vicarage at Stowmarket which, by tradition, is said to have been planted by Milton. A fine specimen of Mulberry tree is to be seen in front of the Head-master's house at Eton. It was measured in 1907, and found to be 30 feet high, with girth of 8 feet 3 inches, and there is a beautiful example in the Canons' old walled garden at Canterbury.

King James I not only issued his famous edict for introducing the culture of the silkworm into Britain, but he also planted largely himself, and directed payments to:

'Master William Stallinge of the sum of L. (Pounds Sterling) 935 for the charge of 4 acres of land taken in for His Majesty's use, near to his Palace of Westminster, for the planting of Mulberry trees, together with the charge of walling, levelling and planting thereof with Mulberry trees.'

This plantation is the 'Mulberry Garden' often mentioned by the old dramatists and occupied the site of the present beautiful private grounds of Buckingham Palace, where one remaining Mulberry tree planted at that time is still to be seen. The tree still bears fruit, but is in no way remarkable either for size of its trunk or the spread of its branches.

'The Royal edict of James I,' writes Loudon, 'recommending the cultivation of silkworms and offering packets of Mulberry seeds to all who would sow them, no doubt rendered the tree fashionable, as there is scarcely an old garden or gentleman's seat throughout the country, which can be traced back to the seventeenth century, in which a Mulberry tree is not to be found. It is remarkable, however, that though these trees were expressly intended for the nourishment of silkworms, they nearly all belong to *M. nigra*, as very few instances exist of old trees of *M. alba* in England.' Shakespeare's famous Mulberry, of which there are descendants at Kew, is referable to this period. Shakespeare is said to have taken it from the Mulberry garden of James I, and planted it in his garden at New Place, Stratford-on-Avon, in 1609. This also was a Black Mulberry, 'cultivated for its fruit, which is very wholesome and palatable; and not for its leaves, which are but little esteemed for Silkworms.'

'The tree,' Malone writes, 'was celebrated in many a poem, one especially by Dibdin, but about 1752, the then owner of New Place, the Rev. Mr. Gastrell, bought and pulled down the house and cut down Shakespeare's celebrated Mulberry tree, to save himself the trouble of showing it to those whose admiration of the poet led them to visit the ground on which it stood.'

The pieces were made into many snuffboxes and other mementoes of the tree, some of them being inscribed with the punning motto, 'Memento Mori.' Ten years afterwards, when the freedom of the city was presented to Garrick, the document was enclosed in a casket made from the wood of this tree. A cup was also made from it, and at the Shakespeare Jubilee, Garrick, holding the cup, recited verses, composed by himself, in honour of the Mulberry tree planted by Shakespeare. A slip of it was grown by Garrick in his garden at Hampton Court, and a scion of the original tree is now growing in Shakespeare's garden.

### **Cultivation**

Mulberry trees like a warm, well-drained, loamy soil, and *M. nigra* is especially worth growing for its luxuriant leafage and picturesque form. It can be increased by cuttings with the greatest ease - in February, cut off some branches of a fairly large size (the old writers say that pieces 8 feet long or more will grow) and insert a foot deep, where neither sun nor wind can freely penetrate. Envelop the stem above the ground level with moss, all but the upper pair of buds, in order to check evaporation. Branches broken down, but not detached, will usually take root if they touch the ground. Layers made in the autumn will root in twelve months, and cuttings of the young wood taken off with a heel and planted deeply in a shady border late in the year will root slowly, but more quickly and surely if put into gentle heat under glass. *M. alba* will also root from autumn or winter cuttings.

The Mulberry can also be increased by seeds, which, if sown in gentle heat, or in the open early in the year, will produce young seedlings by the autumn.

In a paper by Mr. J. Williams of Pitmaston, published in the Horticultural Transactions for 1813, is the statement:

'The standard Mulberry receives great injury by being planted on grass plots with a view of preserving the fruit when it falls spontaneously. No tree, perhaps, receives more benefit from the spade and the dunghill than the Mulberry; it ought therefore to be frequently dug about the roots and occasionally assisted with manure.'

Mulberry trees do not begin to bear fruit early in life, and few fruits can be expected from a tree before it is fifteen years of age. It is commonly said that the fruit of the oldest Mulberry trees is the best.

There are few trees better able to withstand the debilitating effects of the close atmosphere of small town gardens, and numerous fine examples are met with about London, several within the City boundaries, familiar examples of which are those in Finsbury Circus and many smaller ones in St. Paul's Churchyard.

Mulberry trees are not easily killed, and old examples that have been reduced to a mere shell have been rejuvenated by careful pruning and cultivation.

The WHITE MULBERRY (*M. alba*), a deciduous tree, 30 to 45 feet high, native of China, to which we have referred as the tree upon which the silkworm is fed, succeeds quite well in the south of England but is not often grown in this country.

The RED MULBERRY (*M. rubra*), a native of the United States of America, is very difficult to grow here.

The FRENCH MULBERRY (*Callicarpa Americana*) is a shrub 3 to 6 feet high, with bluish flowers and violet fruit, but the species is too tender for any but the mildest parts of Great Britain.

### **Constituents**

of the Black Mulberry Fruit: Glucose, protein, pectin, colouring matter tartaric and malic acids, ash, etc. This composition varies much, as in all fleshy fruits, with the ripeness and other conditions.

In amount of grape sugar, the Mulberry is surpassed only by the Cherry and the Grape.

### **Uses**

Mulberries are refreshing and have laxative properties and are well adapted to febrile cases. In former days, they used to be made into various conserves and drinks.

### **RECIPES**

#### *Mulberry Wine*

On each gallon of ripe Mulberries, pour 1 gallon of boiling water and let them stand for 2 days. Then squeeze all through a hair sieve or bag. Wash out the tub or jar and return the liquor to it, put in the sugar at the rate of 3 lb. to each gallon of the liquor; stir up until quite dissolved, then put the liquor into a cask. Let the cask be raised a little on one side until fermentation ceases, then bung down. If the liquor be clear, it may be bottled in 4 months' time. Into each bottle put 1 clove and a small lump of sugar and the bottles should be kept in a moderate temperature. The wine may be used in a year from time of bottling.

Mulberries are sometimes used in Devonshire for mixing with cider during fermentation, giving a pleasant taste and deep red colour. In Greece, also, the fruit is subjected to fermentation, thereby furnishing an inebriating beverage.

Scott relates in *Ivanhoe* that the Saxons made a favourite drink, Morat, from the juice of Mulberries with honey, but it is doubtful whether the *Morum* of the Anglo-Saxon 'Vocabularies' was not the Blackberry, so that the 'Morat' of the Saxons may have been Blackberry Wine.

## *Mulberry Jam*

Unless very ripe Mulberries are used, the jam will have an acid taste. Put 1 lb. of Mulberries in a jar and stand it in a pan of water on the fire till the juice is extracted. Strain them and put the juice into a preserving pan with 3 lb. of sugar. Boil it and remove the scum and put in 3 lb. of very ripe Mulberries and let them stand in the syrup until thoroughly warm, then set the pan back on the fire and boil them very gently for a short time, stirring all the time and taking care not to break the fruit. Then take the pan off and let them stand in the syrup all night. Put the pan on the fire again in the morning and boil again gently till stiff.

## **Medicinal Action and Uses**

The sole use of Mulberries in modern medicine is for the preparation of a syrup, employed to flavour or colour any other medicine. Mulberry Juice is obtained from the ripe fruit of the Mulberry by expression and is an official drug of the British Pharmacopoeia. It is a dark violet or purple liquid, with a faint odour and a refreshing, acid, saccharine taste. The British Pharmacopoeia directs that *Syrupus Mori* should be prepared by heating 50 fluid drachms of the expressed juice to boiling point, then cooling and filtering. Ninety drachms of sugar is then dissolved in the juice, which is warmed up again. When once more cooled, 6.25 drachms of alcohol is added: the product should then measure about 100 drachms (20 fluid ounces). The dose is 2 to 1 fluid drachm, but it is, as stated, chiefly used as an adjuvant rather than for its slightly laxative and expectorant qualities, though used as a gargle, it will relieve sore throat.

The juice of the American Red Mulberry may be substituted; it is less acid than the European, while that of the White Mulberry, native of China, is sweet, but rather insipid.

In the East, the Mulberry is most productive and useful. It is gathered when ripe, dried on the tops of the houses in the sun, and stored for winter use. In Cabul, it is pounded to a fine powder, and mixed with flour for bread.

The bark of *M. nigra* is reputed anthelmintic, and is used to expel tape worm.

The root-bark of *M. Indica* (Rumph) and other species is much used in the East under the name of San-pai-p'i, as a diuretic and expectorant.

The *Morinda tinctoria*, or Indian Mulberry, is used by the African aborigines as a remedial agent, but there is no reliable evidence of its therapeutic value.

A parasitic fungus growing on the old stems of Mulberry trees found in the island of Meshima, Japan, and called there *Meshimakobu*, brown outside and yellow inside, is used in Japan for medicine.

Gerard recommends the fruit of the Mulberry tree for use in all affections of the mouth and throat.

'The barke of the root,' he says, 'is bitter, hot and drie, and hath a scouring faculty: the decoction hereof doth open the stoppings of the liver and spleen, it purgeth the belly, and driveth forth wormes.'

With Parkinson, the fruit was evidently not in favour, for he tells us:

'Mulberries are not much desired to be eaten, although they be somewhat pleasant both for that they stain their fingers and lips that eat them, and do quickly putrefie in the stomach, if they be not taken before meat.'

The Mulberry family, *Moraceae*, formerly regarded, together with the *Ulmaceae* (Elm family), as a division of the *Urticaceae* (Nettle family), comprises upwards of 50 genera and about 900 species, of very diverse habit and appearance. Among them are the highly important food-plants *Ficus* (Fig) and *Artocarpus* (Bread fruit). *M. tinctoria* (Linn.), sometimes known as *Machura tinctoria* (D. Don), but generally now named *Chlorophora tinctoria* (Gaudich.), yields the dye-stuff Fustic, chiefly used for colouring wood of an orange-yellow colour. The tree is indigenous in Mexico and some of the West Indies, the wood being imported in logs of various sizes. This kind of fustic is known as old fustic, or Cuba fustic. Young fustic is a different product, obtained from *Rhus cotinus* (Linn.). It is known also as Venetian or Hungarian sumach, and is used in the Tyrol for tanning leather. The extract of fustic is imported as well as the wood. From *Maclura Brasiliensis* (Endl.) another important dye-wood is obtained. A yellow dye is also derived from the root of the Osage Orange (*Toxylon pomiferum*, Raf.), belonging to this order. The milky juice of *Brosimum Galactodendron* (Don) - the Cow or Milk-Tree of Tropical America - is said to be usable as cow's milk, and 'Bread-nuts' are the edible seeds of another member of this genus, *B. Alicastrum* (Swz.), of Jamaica. The famous deadly Upas Tree of the East Indies (*Antiaris toxicaria*, Lesc.) is a less useful member of this family.

The bast-fibres of many *Moraceae* are tough and are used in the manufacture of cordage and paper. The Paper Mulberry (*Broussonetia papyrifera*, Vint.) is cultivated extensively in Japan. It is a native of China, introduced into Great Britain early in the eighteenth century and is a coarse-growing, vigorous shrub, or a tree up to 30 feet, forming a roundish, spreading head of branches. The young wood is thickly downy, soft and pithy, the leaves very variable in size and form, often shaped like fig-leaves, the upper surface dull, green and rough, the lower surface densely woolly. It is a dioecious plant, the male flowers in cylindrical, often curly, woolly catkins, the female flowers in ball-like heads, producing round fruits congregated of small, red, pulpy seeds. In Japan, the stems are cut down every winter, so that the shrub only attains a height of 6 or 7 feet, and the barks are stripped off as an important material for paper. *B. Kajinoki* (Sieb.) is a deciduous tree, wild in Japan, growing 29 to 30 feet high, similar to the Paper Mulberry and made use of in like manner, though inferior. The ripe fruits are beautifully red and sweet. Paper is also manufactured in Japan with the fibre of the bark of *B. kaempferi* (Sieb.), a deciduous climber. A good paper may be manufactured from the bast of the *Morus alba*, var. *stylosa* (Bur.), Jap. 'Kuwa,' but as this plant is used especially for feeding silkworms, the paper made from the branches after the leaves are taken off for silkworms is of a very inferior quality.