

Coffea arabica

COFFEE (English, Hindi) is an evergreen shrub or tree. Native to tropical Africa (particularly Ethiopia) it has small sweetly scented, white flowers.

It is also known as Abyssinian coffee, *Albero del caffè* (Italian), Arabian coffee, *Arabiankahvi* (Finnish), Arabica coffee, *Arabicakaffee* (German), *Arabicakoffie* (Dutch), *Arabika kooonii* (Japanese), *Arabischer Kaffeebaum* (German), *Arabischer Kaffeestrauch* (German), *Arabiskt kaffe* (Swedish), *Arbol del café* (Spanish), *Arbusto del caffè* (Italian), *Bergkaffee* (German), *Bunc* (Ethiopian), *Bunna* (Ethiopian), *Cafe* (Portuguese), *Café* (French, Portuguese, Spanish), *Café arabica* (French), *Caféiro* (Portuguese), *Caféier commun* (French), *Caféier d'Arabie* (French), *Cafeto* (Spanish), *Cafeto arabico* (Spanish), *Cafeto de Arabia* (Spanish), *Caffe* (Italian), *Caffè* (Italian), *Càphê arabica* (Vietnamese), *Capie cottay* (Tamil), *Chaabe* (Telugu), Common coffee, *Elive* (Arabic), *Gehve* (Persian), *Ikhofi* (Zulu), *Ilkhofi* (Zulu), *Kafae* (Thai), *Kafe* (Creole), *Ka fei* (Chinese), *Ka fei shu* (Chinese), *Kafes* (Greek), *Kaffe* (Danish, Swedish), *Kaffee* (German), *Kaffeestrauch* (German), *Kafi* (Hindi), *Kahawa* (Swahili), *Kahua* (Kikuyu), *Kahve* (Turkish), *Kahve oghadji* (Turkish), *Kapé* (Tagalog), *Kávovník arabský* (Czech, Slovak), *Kawa* (Polish), *K'eo p'i na mu* (Korean), *Kofe arabica* (Russian), *Kofeo Arabia* (Esperanto), *Koffie* (Afrikaans, Dutch), *Koffiestruik* (Dutch), *Koohii noki* (Japanese), *Kopi* (Malay), Maragogipe coffee, Mocha coffee, *Muhubva* (Shona), *Qahwa* (Arabic, Jordanian), *Qahwah* (Arabic), *Tochem keweh* (Persian), *Xiao guo ka fei* (Chinese), and *Xiao li ka fei* (Chinese).

The flowers bloom for 2 days. The plants can fruit for up to 40 years.

Its cherry-like (*Prunus avium*), deep red berries are harvested from the 3rd to 10th or 15th years, and the ripe fruit (they take up to 9 months to ripen and are picked by hand as only ripe berries can be taken from the fruit clusters) are either laid out in thin layers to dry in sun for 2 to 3 weeks after which the flesh is rubbed off – or particularly in rainy areas, the fruit are crushed mechanically and the pulp and seeds, after short fermentation, are released and dried in a current of hot air. The seeds (about 1,000 weigh 1 lb.) are graded under quality control and sold. They are roasted only when they are to be consumed.

Warning – taken in excess, coffee can cause a speeded heart rate, muscle tremor, palpitations, restlessness and sleeplessness.

Arabica means 'of or from Arabia'.

Some parts of Ethiopia were and still are (at the turn of the 20th and 21st Centuries, just), covered in natural forests of coffee. For centuries the local inhabitants have eaten the raw berries (in small cakes probably mixed with mutton fat) to ease fatigue – and as a stimulant, especially on long journeys. Local legend (which seems to have been similar for Arabian tea (*Catha edulis*), as well as some other plants in other areas) tells how a goatherd first noticed coffee's energizing qualities when his animals became frisky after eating the ripe berries. Another story claims that the abbot of a local monastery gave his monks an infusion of the leaves to keep them awake during night vigils. A drink (which had a similar effect) was also made from the fermented berries.

Legend notwithstanding, authorities believe that it was the Ethiopians that developed the habit of drinking coffee and spread this to Arabia but that it was the Arabians who first brewed coffee as it is known today.

Some authorities suggest that this species may have been first cultivated as early as 6 AD, and others believe earlier still as they surmise that the shrub was known to the Sabaeans of the Yemen. These were the Queen of Sheba's peoples who traded in spices, were the founders of Coptic Christianity, and vanished from the face of the earth in about the 4th Century.

From records the Arabian philosopher and physician, Avicenna (980-1037) is said to be credited with the first known written references to coffee i.e. in the 10th Century. By the 15th Century if not before coffee had gained a reputation as a mental and physical stimulant. Proof exists of it being drunk in Aden in 1420, although some claim that beans were being cleaned and roasted two centuries before that.

The beverage proved to be popular with followers of Islam for whom alcoholic drinks were forbidden – then as now. Coffee, itself, met strong competition initially from orthodox Moslem believers who claimed it was intoxicating and thus banned by the *Koran* (an opposition which was to be repeated centuries later in several countries, not just by Moslems but also by over-zealous Christian theologians, especially when the coffee drinking practice began to spread into western Europe). It has been suggested that one sect especially, the Dervishes, would have welcomed the coffee's caffeine in helping to extend the period of the pre-cataleptic state they maintained for their long devotions which included chanting and whirling like a top. This religious and political interest in it, combined with the spread of the new drink by the pilgrims to Mecca who returned home with the revolutionary practice, carried the coffee drinking habit further and further afield, and by 1550 it had reached Constantinople (now Istanbul) via Syria.

Constantinople is said to have opened the first coffee house there in 1554 – and others rapidly followed this. They proved to be extremely popular with their all-male clientèle and drew many customers who spent much time discussing their business and private affairs and politics. But from 1574 the Ottoman Empire was to be ruled by Sultan Murad III (1546-1595) who was convinced that these coffee houses were hotbeds of sedition (a belief to be echoed the following century in western Europe too) and he had the proprietors tortured and their businesses closed. But coffee would not go away. After the Sultan's death coffee houses slowly began to reappear and, by 1648 when Mahomet IV (1642-1693) assumed power, they were in full swing again. However, while he indulged in pleasure, his vizier wielded authority and batted down any freedom of speech. Again the coffee proprietors were viciously attacked and coffee drinking went 'underground'.

Despite these setbacks in the Ottoman Empire (and probably elsewhere) by the mid-16th Century the now longstanding Arabian tradition of offering black coffee as a sign of hospitality was well established. To this point it was normal to drink coffee, bitter and light, although the Turks flavoured theirs with star anise (*Illicium verum*), cardamom (*Elettaria cardamomum*) or amber essence. It was Turkey who was first to accept coffee into the Country's social fabric after many of the Turkish conquests under the Ottoman regime. In Turkey coffee was to gain such importance that, until modern times, a wife is said to have been able to divorce her husband if she received inadequate daily supplies of the beans. Even today coffee dregs for the Turks are said to be equivalent to tea leaves (*Camellia sinensis*) for the English in fortune telling circles.

First mention of coffee by a European is believed to have come from the physician and botanist, Leonhard Rauwolf (1535-1596) on his return from travels in the Ottoman Empire in the mid-1570s. Twenty odd years later in 1591 Prosper Alpinus (1553-1661), the Italian botanist and physician who was also known as Prospero Alpini, produced a

more detailed description. He had visited Egypt in the early 1580s and witnessed how coffee was drunk there – as wine would be when he was at home.

The Venetians, who were trading in Constantinople, introduced coffee to the rest of Europe in 1615 and around the middle of that Century the first Venetian coffee houses opened. The Turkish invasion of Austria in 1683 was overcome outside Vienna and as part of the spoils of war the Austrians are said to have exacted a large quantity of coffee. Now for the first time the drink was sweetened. In Vienna around 1700 the Caffé Florian was established and became a noted landmark that exists to this day.

Coffee made its way into Germany where, as in so many other countries, it did not attract universal approval. Some venerable German doctors convinced themselves that coffee caused sterility and attempted to get a law passed that would forbid women from drinking it. In answer to this sally Johann Sebastian Bach (1685-1750) is believed by many to have written the *Coffee Cantata*.

In France in 1669 coffee was popularised by Soleiman Aga, the Turkish ambassador at the court of Louis XIV (1638-1715) – although some will point out that a French traveller, La Royné or La Roque, introduced coffee to Frenchmen in the Marseilles district in about 1644. However it appeared on the French scene coffee was extremely expensive and only within the reach of the wealthy. This meant that its general acceptability remained contained. Marseilles, in the south of France, is thought to have opened the first ‘coffee liquor’ shop in western Europe on the continental mainland in 1671, and in the following year a coffee shop opened in Paris. It not only sold lead-lined boxes filled with coffee beans but also ground coffee which was packaged in greased leather bags to preserve the aroma. The cost of the former (not least the box itself) was prohibitive, so the suppliers adulterated the coffee inside to reduce the price (by adding ground broad beans (*Vicia faba*), barley (*Hordeum vulgare*), cornelian cherry stones (*Cornus mas*), or acorns (*Quercus*)) – but still it brought little or no custom. The next innovation came from the street sellers who made ready-to-drink coffee which was sold on the doorstep. At that time the drink was only achieved with laborious difficulty (from acquiring the beans to the preparation of the final hot liquid). Not least of the inconveniences was the absence of coffee mills which had as yet to be invented – even manual ones only appeared after 1687. Thus when from about 1683 a Sicilian, Francisco dei Coltelli, opened a reasonably priced *café* which offered coffee and other specialties, such as ice cream, sweetmeats and liqueurs (an extension of the burgeoning Viennese fashion) and a meeting place as well, it gained popularity immediately and bred many competitors. In Paris alone there were three hundred by 1721 (a figure which continued to increase) and by the early 1780s at least they had attracted some measure of disfavour in ruling circles as allegedly being disruptive influences on society. This disfavour often manifested itself in raids by the authorities (as in Turkey 200 years earlier and Britain the previous Century) if not vicious attack. By 1789 at the beginning of the French Revolution Parisian coffee houses numbered 2,000 and these were set to double during the ensuing troubled years. According to some authorities they were also about to receive a face-lift. Blissfully unaware of the impending destruction of his fleet by the British and no doubt savouring his two victories over the Egyptians, Napoleon (1769-1821) entered Cairo in 1798. It is suggested that while there he became so enamoured by the Egyptian practice of drinking coffee in their open-air establishments that on his return to Paris he imported it to the French boulevards – and in so doing paved the way for most foreigners’ recognition of a traditional French scene today.

Meanwhile in Britain some authorities claim that in London alone there were over 3,000 coffee houses by 1675. The first in England is said to have been that opened in Oxford in 1650 by a Turkish Jew – one that proved to be an immediate success. The speed with which

others may have followed could perhaps be explained by the fact that in 1649 the Country's monarchy had been overturned and Oliver Cromwell (1599-1658) had assumed chairmanship of the Council of State that controlled the new 'commonwealth'. In the following years, during which Parliament rarely sat and both the press and publishers were subject to censure, coffee houses burgeoned as meeting places (almost, some mooted, as gentleman's clubs which several of them were destined to become), news organs of communication (hand painted papers were displayed on the walls) and centres of political debate – and were often referred to as 'penny universities'. In 1660 the monarchy was restored and Charles II (1630-1685) was crowned. By then the British coffee house culture had become well established and politicians now began to fear them as hotbeds of insurrection – as their peers in other countries had also done or were destined to do. The British politicians' only support may have come from the brewers who were afraid of coffee's competition. They claimed that they had a 'divine right' to make and sell their nationally established product, ale, unlike purveyors of a foreign drink, that coffee caused bad smells which disturbed the neighbourhood, and that the coffee houses themselves threatened disturbance of the peace. However attempts made by Charles II in 1675 to shut them down were met with public outcry of such magnitude that after only ten days their closure had to be reversed.

The coffee houses in the City of London were to be instrumental in establishing London as an international financial centre. For example they came to be used by the messengers from the merchant banks as convenient meeting places for exchanging their dockets. This led in the early 19th Century to the establishment of the first central Clearing House for the exchange of bills of exchange. These same coffee houses were similarly significant in the development of the English Stock Exchange, Lloyds of London and some of the insurance companies as well.

Germany had already become a well-established beer-drinking nation when coffee began to infiltrate western Europe and it was not until 1690 that the first coffee house in that Country was opened – and that was only to accommodate the tastes of British sailors in Hamburg. Leipzig then followed Hamburg's example, but here the wish was to entertain merchants and intellectuals who used it as a staging post as they passed through the area on their way to other parts of the Continent.

Coffee featured little in North American life until the notorious Boston Tea Party that took place in December 1773 (although Boston was able to boast its own *Café* or 'Coffee House' in 1689) – and the even later American Civil War of the 1860s. From then on it began to dominate tea (*Camellia sinensis*) drinking there and has done so ever since, while the British started as avid coffee drinkers but had begun to succumb to its rival tea (*Camellia sinensis*) by the 1730s.

As much as any other item for sale coffee can be adulterated. In 1820 a German-born chemist, Friedrich Accum (1769-1838) published a novel book in 1820 in England called '*Treatise on Adulteration of Food and Culinary Poisons*'. This book caused a public outcry as it revealed in print some of the suspected dishonest trading and unclean food practices. It seems that British coffee was as vulnerable there as its great rival tea and could be diluted with ground acorns (*Quercus*), chicory (*Cichorium intybus*), or mangel-wurzel (*Beta vulgaris* subsp. *vulgaris*).

European demand for coffee was enormous and had been reliant upon Arabian sources for over a century. In 1690 the Dutch, with coffee plants obtained from Mocha (the then centre of the Arabian coffee trade) began to cultivate coffee on plantations in Indonesia and Ceylon (now Sri Lanka) and in 1718 in Surinam in South America as well.

The coffee industry was beginning to establish itself in South America and encouraged by this the French (as well as the Dutch) had coffee interests building in the Indian Ocean too by

the end of that Century. The French had sent Pierre Poivre (c.1718-1786), a scholarly and travelled naturalist, out to govern the Mascarene Islands in 1767. Apart from his long and abiding interest in clove trees (*Syzygium aromaticum*), Poivre also imported a few coffee plants to the French Île de Réunion and their growth there was so successful that they had multiplied to 1,000,000 by 1825 and were destined to produce one of the best and most sought after coffees.

Ceylon where the British were growing coffee was, by the 1870s, well along the path to becoming an example of the effects of a one-crop economy. Due apparently to ignorance and neglect her coffee trees succumbed to leaf spot. The fungus disease spread so rapidly that few trees were left standing by the end of the 1800s and it was only because her young tea (*Camellia sinensis*) plantations were ultimately able to step into the breach that she managed to avert economic disaster.

It would seem that there is some dispute among authorities about the establishment of today's coffee industry in South America and the West Indies, in that there are at least two different claims to explain its stuttering beginnings. Some say that all the coffee plants in these areas originate from one shrub taken from the Jardin des Plantes in Paris and introduced to Martinique in 1723 by a Frenchman, Captain Gabriel Mathieu de Clieu, who had to surmount many obstacles in order to land the single plant safely. (If one ponders on the heritage of this single plant, it is amazing. Coffee bushes from the Dutch plantations, established in the mid-16th Century in the East Indies and Ceylon, were sent home to the Botanic Gardens at Leyden. However only one plant is said to have survived that journey and, generously, seeds were passed from it to other botanic gardens in Europe – and one of these matured into the plant which was borne across the Atlantic to the West Indies. Others point out that the Dutch were cultivating coffee in Surinam in South America in 1718 and may have smuggled plants into Cayenne in Brazil. In either event an industry developed there which today has been earning sums only second to petroleum.

These valuable American plantations, which account for 75% of the world's coffee supply today, have been severely threatened from time to time in various ways. One of the most obvious is the fungus referred to earlier and botanists have had to look to the species' natural home for a cure. Thus perpetuation of the original Ethiopian forests is of vital importance for the coffee industry as they hold the key to the existence of wild coffees which, themselves, are an irreplaceable source of genetic information essential for the survival of the commercial coffee plantations in the Americas and elsewhere in Africa.. Today four-fifths of East African forests no longer exist, so botanists are having to rely on the trees in the remaining one-fifth for genetic material for help in their search for disease-resistant agents which could be absorbed into new varieties. Cultivated bushes are highly susceptible to the coffee rust disease. It threatened the whole industry as recently as 1970 when it hit Latin American plantations – and it was only the genetic information then obtained from the wild coffee in Ethiopia apparently that enabled their recovery. Other factors that can be equally devastating include adverse weather conditions and, for instance, increasing labour costs. With regard to the latter consumers were warned in 1993 of the possibility of imminent price rises as the international conglomerates began to accede to pressures for recognition of the demands of plantation workforces for realistic wages. By the turn of the 20th/21st Centuries however emphasis had moved on to new problems imposed on the coffee plantation owners themselves from higher up the food chain. It was even being alleged that some South American plantations were beginning to go out of business as they were unable to attract realistic prices for their coffee beans from the conglomerates who owned the coffee house outlets. In other words the plantation owners were themselves now becoming victims of greed as much as

their labour forces. Reporters seemed to be singling out one particular Company with worldwide chains of coffee outlets as an example of this new threat. In their reports they drew attention to the profits made from what many of this Company's customers viewed as exorbitant prices asked at street level for a cup of coffee compared with the estimated overheads involved and the price that the Company was prepared to pay for the beans. Ruthless trading is not the only problem in the early 21st Century however as a glut in world coffee bean production (contributed to in particular by Brazil and Vietnam) resulted in a severe slump in international coffee prices. For Ethiopian coffee farmers this was disastrous on top of several years of drought. Their income was reduced by at least two-thirds and, although families had cultivated coffee for generations, it was reported that with some disquiet a significant number decided to replace their plants with Arabian tea (*Catha edulis*). (This latter is not only easier to grow but it would also be more valuable than coffee and offer a reliable income. Its disadvantage is its addictive properties.) Coffee was one of Ethiopia's major export commodities and a 30% reduction was predicted in a normal national coffee harvest with this crop conversion.

The cost of coffee as a national commodity has on many occasions been a burden on national exchequers of European countries at different times during the past 300 odd years. Many unrelated plants have been used as a substitute to ease the financial pressure, but none more successfully than chicory (*Cichorium intybus*) that, itself, has done much to encourage the coffee drinking habit of today.

There are several ways of preparing coffee: turkish coffee involves pouring extremely finely ground coffee into boiling water, while french coffee involves pouring water just off boiling point onto finely ground coffee. The former is enjoyed by Arabian, eastern Mediterranean and Middle Eastern countries, and the latter (for which there are several further variations) by most Western countries.

In Malaysia an infusion of the leaves has been used as a drink and it is said to contain more caffeine than that obtained from the seeds (beans).

One unusual modern practice is found in Japan. There coffee grounds are believed to have such health-giving properties that the Japanese have bathed in them.

Apparently monkeys view the red fruit as an especial treat – another threat for plantations even today.

Coffee features in heraldic devices. The national coat of arms of Brazil depicts a branch of coffee surrounding one side of the Southern Cross, and coffee also appears in the Angolan national coat of arms.

Today coffee is a commercial ingredient used by the food industry in flavourings, particularly confectionery, pastries and ice cream, and by the drinks industry in liqueurs eg. Kahlua. The wood is used for making furniture.

One further interesting development for the massive coffee industry should perhaps be mentioned. In the last half of the 20th Century caffeine was extracted from some coffee sold on a wide commercial scale to meet consumer demand. (Madagascan species of coffee which were known to be naturally free of caffeine had proved to be difficult to breed on a large commercial scale.) But the expensive decaffeination process yielded a coffee with a less pleasing taste than that of 'normal' coffees which continued to be marketed. Then in the early 21st Century it was reported that by the end of the first decade naturally caffeine-less coffee made from caffeine-free varieties of *Coffea arabica* discovered by Brazilian scientists was a viable prospect. (If this development proved to be successful it could have a marked impact on other beverages drunk widely, such as tea (*Camellia sinensis*), which also contain caffeine.)

Medicinally, coffee has long been used when treating snake bites to help ward off coma, and many of the older cultures used coffee to treat fever. Then perhaps less believably

herbalists have promoted it for the treatment of tuberculosis, gout, scurvy, smallpox and fluid retention. In Western medicine coffee is rarely used today although it can be an ingredient in some pharmaceutical preparations not least as a flavouring.