



Taxus baccata

Taxus baccata is a conifer native to western, central and southern Europe, northwest Africa, northern Iran and southwest Asia. It is the tree originally known as yew, though with other related trees becoming known, it may now be known as English yew, or European yew.

Taxonomy and naming

The word *yew* is from Proto-Germanic **īwa-*, possibly originally a loanword from Gaulish **ivos*, compare Breton *ivin*, Irish *ēo*, Welsh *ywen*, French *if* (see Eihwaz for a discussion). *Baccata* is Latin for *bearing red berries*. The word *yew* as it was originally used seems to refer to the color brown.^[6] The yew (μίλος) was known to Theophrastus, who noted its preference for mountain coolness and shade, its evergreen character and its slow growth.

Most Romance languages, with the notable exception of French (*if*), kept a version of the Latin word *taxus* (Italian *tasso*, Corsican *tassu*, Occitan *teis*, Catalan *teix*, Gasconic *tech*, Spanish *tejo*, Portuguese *teixo*, Galician *teixo* and Romanian *tisă*) from the same root as *toxic*. In Slavic languages, the same root is preserved: Russian *tis* (*muc*), Slovakian *tis*, Slovenian *tisa*, Serbian-Croatian-Bosnian *tisa/muca*. Albanian borrowed it as *tis*.

In German it is known as Eibe.

The common yew was one of the many species first described by Linnaeus..

Description

It is a small to medium-sized evergreen tree, growing 10–20 metres (33–66 ft) (exceptionally up to 28 metres (92 ft)) tall, with a trunk up to 2 metres (6 ft 7 in) (exceptionally 4 metres (13 ft))

diameter. The bark is thin, scaly brown, coming off in small flakes aligned with the stem. The leaves are flat, dark green, 1–4 centimetres (0.39–1.57 in) long and 2–3 millimetres (0.079–0.118 in) broad, arranged spirally on the stem, but with the leaf bases twisted to align the leaves in two flat rows either side of the stem, except on erect leading shoots where the spiral arrangement is more obvious. The leaves are poisonous.

The seed cones are modified, each cone containing a single seed, which is 4–7 millimetres (0.16–0.28 in) long, and partly surrounded by a fleshy scale which develops into a soft, bright red berry-like structure called an aril. The aril is 8–15 millimetres (0.31–0.59 in) long and wide and open at the end. The arils mature 6 to 9 months after pollination, and with the seed contained, are eaten by thrushes, waxwings and other birds, which disperse the hard seeds undamaged in their droppings. Maturation of the arils is spread over 2 to 3 months, increasing the chances of successful seed dispersal. The seeds themselves are poisonous and bitter, but are opened and eaten by some bird species including hawfinches, greenfinches and great tits. The aril is not poisonous, it is gelatinous and very sweet tasting. The male cones are globose, 3–6 millimetres (0.12–0.24 in) diameter, and shed their pollen in early spring. The yew is mostly dioecious, but occasional individuals can be variably monoecious, or change sex with time.

Longevity

Taxus baccata can reach 400 to 600 years of age. Some specimens live longer but the age of yews is often overestimated. Ten yews in Britain are believed to predate the 10th century.^[12] The potential age of yews is impossible to determine accurately and is subject to much dispute. There is rarely any wood as old as the entire tree, while the boughs themselves often become hollow with age, making ring counts impossible. Evidence based on growth rates and archaeological work of surrounding structures suggests the oldest yews, such as the Fortingall Yew in Perthshire, Scotland, may be in the range of 2,000 years, placing them among the oldest plants in Europe. One characteristic contributing to yew's longevity is that it is able to split under the weight of advanced growth without succumbing to disease in the fracture, as do most other trees. Another is its ability to give rise to new epicormic and basal shoots from cut surfaces and low on its trunk, even at an old age.

Significant trees

The Fortingall Yew in Perthshire, Scotland, has the largest recorded trunk girth in Britain and experts estimate it to be 2,000 to 3,000 years old, although it may be a remnant of a post-Roman Christian site and around 1,500 years old. The Llangernyw Yew in Clwyd, Wales, can be found at an early saint site and is about 1,500 years old. The Kingley Vale National Nature Reserve in West Sussex has one of Europe's largest yew woodlands.

The oldest specimen in Spain is located in Bermiego, Asturias. It is known as *Teixu l'Iglesia* in the Asturian language. It stands 15 m (49 ft) tall with a trunk diameter of 6.82 m (22.4 ft) and a crown diameter of 15 m. It was declared a Natural Monument on April 27, 1995 by the Asturian Government and is protected by the Plan of Natural Resources.

A unique forest formed by *Taxus baccata* and European box (*Buxus sempervirens*) lies within the city of Sochi, in the Western Caucasus.

Toxicity

All parts of a yew plant are toxic to humans with the exception of the yew berries (however, their seeds are toxic).

Symptoms of yew poisoning include an accelerated heart rate, muscle tremors, convulsions, collapse, difficulty breathing, circulation impairment and eventually cardiac arrest. However, there may be no symptoms, and if poisoning remains undetected death may occur within hours. Fatal poisoning in humans is very rare, usually occurring after consuming yew foliage. The leaves are more toxic than the seed.

Uses and traditions

In the ancient Celtic world, the yew tree (**eburos*) had extraordinary importance; a passage by Caesar narrates that Catuvolcus, chief of the Eburones poisoned himself with yew rather than submit to Rome (*Gallic Wars* 6: 31). Similarly, Florus notes that when the Cantabrians were under siege by the legate Gaius Furnius in 22 BC, most of them took their lives either by the sword, by fire, or by a poison extracted *ex arboribus taxeis*, that is, from the yew tree (2: 33, 50–51). In a similar way, Orosius notes that when the Astures were besieged at *Mons Medullius*, they preferred to die by their own swords or by the yew tree poison rather than surrender (6, 21, 1).

The Irish name Eógan / Eoghan is thought to be derived from the yew's importance in ancient Ireland and means 'of the yew'.

Religion

The yew is traditionally and regularly found in churchyards in England, Wales, Scotland, Ireland and Northern France (more specifically in Normandy).

In Asturian tradition and culture the yew tree has had a real link with the land, the people, the ancestors and the ancient religion.

It has been suggested that the Sacred Tree at the Temple at Uppsala was an ancient yew tree.

In interpretations of Norse cosmology, the tree *Yggdrasill* has traditionally been interpreted as a giant ash tree. Some scholars now think that in the past an error has been made in the interpretation of the ancient writings, and that the tree is most likely a European yew (*Taxus baccata*).

Medical

Certain compounds found in the bark of yew trees were discovered by Wall and Wani in 1967 to have efficacy as anti-cancer agents. The precursors of the chemotherapy drug paclitaxel (taxol) was later shown to be synthesized easily from extracts of the leaves of European yew, which is a much more renewable source than the bark of the Pacific yew (*Taxus brevifolia*) from which they were initially isolated. This ended a point of conflict in the early 1990s; many environmentalists, including Al Gore, had opposed the destructive harvesting of Pacific yew for paclitaxel cancer treatments. Docetaxel can then be obtained by semi-synthetic conversion from the precursors.

Woodworking and longbows

Wood from the yew is classified as a closed-pore softwood, similar to cedar and pine. Easy to work, yew is among the hardest of the softwoods; yet it possesses a remarkable elasticity, making it ideal for products that require springiness, such as bows.

Yew is also associated with Wales and England because of the longbow, an early weapon of war developed in northern Europe, and as the English longbow the basis for a medieval tactical system.

Horticulture

Today European yew is widely used in landscaping and ornamental horticulture. Due to its dense, dark green, mature foliage, and its tolerance of even very severe pruning, it is used especially for formal hedges and topiary. Its relatively slow growth rate means that in such situations it needs to be clipped only once per year (in late summer).

Well over 200 cultivars of *T. baccata* have been named. The most popular of these are the Irish yew (*T. baccata* 'Fastigiata'), a fastigiate cultivar of the European yew selected from two trees found growing in Ireland, and the several cultivars with yellow leaves, collectively known as "golden yew".

European yew will tolerate growing in a wide range of soils and situations, including shallow chalk soils and shade, although in deep shade its foliage may be less dense. However it cannot tolerate waterlogging, and in poorly-draining situations is liable to succumb to the root-rotting pathogen *Phytophthora cinnamomi*.

In Europe, *Taxus baccata* grows naturally north to Molde in southern Norway, but it is used in gardens further north. It is also popular as a bonsai in many parts of Europe and makes a handsome small to large sized bonsai.

Privies

In England, yew has historically been sometimes associated with privies, possibly because the smell of the plant keeps insects away.