**Sorbus domestica** in Europe: distribution, habitat, usage and threats

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*Sorbus domestica* L. (service tree) is a wild fruit tree. Its apple-like fruit are used for a range of culinary and medicinal purposes. Although it can tolerate a fairly wide range of climatic and soil conditions, it is unable to stand competition and is usually found as isolated trees. Originally cultivated by the Romans, it is now rare throughout its natural range and is subject to several conservation and breeding programs.

Service tree (*Sorbus domestica*) L. is a deciduous tree, usually reaching around 20 m in height, although it can grow much larger in favourable sites. Leaves are imparipinnate with 15-31 leaflets. The bark is dark in colour with fine rectangular fissures. Small white flowers appear from late April to mid-May. The edible fruits are apple or pear-shaped, 2-3 cm in diameter. Although the seeds are well dispersed by birds and mammals, the regeneration rate from seeds is low, and the tree also frequently regenerates by root suckers. It is long-lived and often reaches 200 years of age, occasionally up to 400 or more.

**Distribution**

Service tree is distributed through central and southern Europe in particular in the Balkan Peninsula, Italy and southern France, and rarely in parts of North Africa and western Asia. At its northern limit there are a few scattered individuals in Wales and central England, although it is thought that these are probably descended from cultivated trees. Nowadays, it is unclear how much of its distribution range is natural, since this species has been spread through cultivation since Roman times. However, it is rare throughout its range and endangered in many parts.

**Habitat and Ecology**

Service tree prefers warm and mild climates, although it is also resistant to cold down to -25 °C to -30 °C and can withstand late frost. It is able to grow on dry sites and cope with drought during the vegetation period, requiring a minimum rainfall of 500 mm per year. It can be found up to 650 m on south-facing slopes in central Europe, but can grow at higher elevations further south. It is tolerant to a variety of soil conditions, but prefers moderately acid or neutral soils. It can also be found in coppice and former coppice forests as a result of historic cultivation. It is a very light demanding species that can tolerate shade only in its first few years. This makes it a weak competitor, unable to dominate when crown closure occurs. Under conditions of a warming climate it may become more favoured in some sites as a result of its drought tolerance, but its scarcity is likely to limit any range movement.

**Importance and Usage**

Service tree can be used for ornamental purposes, wood and fruit production. The fruits can be eaten when blanched (overripe), or are used to produce marmalades, jams, jellies, juices, fruit wine or other alcoholic drinks. It is also used in traditional medicine against intestinal problems, dysentery, diabetes and for memory improvement. The hard and heavy wood is of good quality and can command a high price; it is often used for making small objects such as screws, gears, teeth, bearings and rifle butts.

**Threats and Diseases**

Diseases of apple, such as European canker of apple (*Nectria galligena*) and apple scab (*Venturia inaequalis*), can affect the service tree and cause premature leaf fall. Across Europe, the species is very rare and its genetic diversity is threatened mainly due to the reduction in number of individuals and disturbance of the natural populations by human activities.

**References**


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