

## Tree Profile: Hornbeam - *Carpinus*

**General information:** Hornbeams are relatively small deciduous hardwood trees in the genus *Carpinus* with about 30 to 40 species. They're found across much of the north temperate regions of Europe and North America, but with the greatest number of species in East Asia, particularly China.

Ironwood is also a common name for hornbeam dating back to the ancient times when they used its wood in ship building.

The alternate, toothed leaves are a mid-green before turning bright yellow, orange or red in autumn. The muscle look smooth bark is silvery-grey-purple.

The male and female flowers are wind-pollinated separate pendulous catkins on the same tree (monoecious), produced in spring, followed by fruit.

**Position:** Full sun or partial shade in summer - airy for best growth, protect from hot winds and frost!

**Watering:** Moderate, but keep moist all the time. Increase in summer during growing season!

**Feeding:** Weekly for the first month after bud burst, every two weeks thereafter until summer. Use ordinary fertilizer as a diluted solution or slow release pellets - stop in midsummer for one month! No feeding for two month after repotting!

**Repotting:** Every 2-3 years in early spring in free draining mix - prefers a deep pot! Ten years and older trees only when getting "pot-bound"!

**Pruning & Wiring:** Best time for minor pruning is early spring and after flowering. Allow the initial flush to fully extend and harden off, then prune back new growth very hard. This hard pruning will encourage back budding and a second flush of shorter, more compact growth! Major pruning to be done in late winter, before bud burst. Due to its strong apical growth it may be necessary to cut back radically at the apex, but conservatively at the lower portions of the tree. Wiring from spring to autumn, Korean Hornbeam with its twiggy branches doesn't normally need to be wired, just clip and grow!

**Propagation:** From seed in autumn, cuttings root easier in early spring from juvenile tree shoots, softwood cuttings in mid-summer (poor success rate) and air layering in spring.

**Pests and diseases:** Sometimes caterpillars and aphids, leaf miner, spider mites, could also be troubled by leaf spot, canker, powdery mildew and dieback. Leaf spots are not serious, Canker caused by several fungi, can result in infected branches dieback and entire trees die if the trunk is infected.

**Styles:** Suitable for all styles in medium to large sizes.

### Some species suitable for bonsai:

*Carpinus betulus*: European hornbeam, bright green foliage turning yellow in autumn, sensitive to strong frost.

*Carpinus coreana*: The true Korean hornbeam, the fastest growing *Carpinus* species preferred for bonsai. The leaves will be red, yellow or orange in autumn - sometimes on the same branch!

*Carpinus turczaninowii*: The "other" Korean hornbeam, less vigorous and found in Japan, Korea and China, very small leaves and delicate branching growth pattern, has orange-red autumn colour.

*Carpinus caroliniana*: American hornbeam, blue beech, water beech, tree with a rounded habit and generally prone to multiple trunks, with orange and yellow autumn color.

*Carpinus japonica*: Japanese hornbeam, nice flowers in spring. Smooth pink-grey bark.



*Picture courtesy of S & S Bonsai*



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