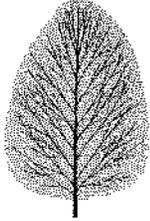


# *Carpinus betulus* - European Hornbeam (*Betulaceae*)

*Carpinus betulus* is a columnar to teardrop-shaped tree. European Hornbeam is noted for fine and dense texture, ornamental winter bark and buds, dense summer foliage, pendulous spring catkins, and unusual autumn fruits.

## Form



-medium growth rate

## Culture

-full sun to partial sun; prefers a well-drained soil but is adaptable to various soils and soil pHs; if transplanted in autumn, use amended soil, fertilize, mulch liberally, and avoid winter salt spray

-cultivars are usually propagated by rooted cuttings or cuttings grafted onto seedling understock;  
-co-dominant central branch decline and dieback an occasional problem on mature specimens of 'Fastigiata';  
-stem borers can also attack mature trees  
-commonly available in B&B

## Foliage

-alternate, ovate to oblong, doubly serrated, with impressed veins; opaque to dull green; autumn color ranging from a poor yellowish-green to golden-yellow  
-leaves similar to those of European Beech, but the latter leaves are shiny, with margins that are entire or undulate



## Flowers

-pendulous catkins, both staminate and pistillate, produced in Apr., with the 3" long pistillate catkins emerging from 3-lobed bracts

## Fruits

-light brown nutlets, maturing in Oct., with the enveloping 3-lobed bract appearing as an umbrella over them; bracts changing from light green to yellow in Sept. and clustered on the twigs

## FEATURES

-medium-sized deciduous tree; the rarely available species form maturing at 40' tall x 30' wide, with the common cultivars more compact; species form an upright oval growth habit in youth, quickly becoming a spreading oval (low-branched teardrop shape) with maturity

## Twigs

-olive-brown and lenticled, with ornamental winter buds that are long and partially curving around the twigs -the twigs are similar to those of the European Beech, but the latter has winter buds that extend straight out of the stem at a 45 degree angle.

## Trunk

-smooth and steel gray, but having a muscled character to its appearance

## USAGE

### Function

-specimen or focal point tree of great symmetrical and architectural value; can also be an effective year-round screen or tall, wide hedge when used in rows

### Texture

-fine texture in foliage and when bare; thick density in foliage and when bare, with many ascending twigs and branches forming a thick canopy even in winter

### Assets

-perfect formal symmetry; often limbs and foliages to the ground if unpruned; fine-textured branches and twigs; ascending habit; smooth gray bark; ornamental winter buds, spring catkins, and autumn fruit bracts; dense year-round screen (rare for a deciduous tree)

### Liabilities

-'Fastigiata' gets wide with age and may exhibit central canopy decline and dieback

### Habitat

-Zones 4 to 7  
-Native to Europe and Asia Minor

## SELECTIONS

### Alternates

-trees or large shrubs that branch to the ground with a dense character (e.g., *Fagus sylvatica*); large non-thorny screens or informal hedges (e.g. *Rhamnus frangula* 'Columnaris'); trees with ornamental and unusual fruits; trees or large shrubs with symmetrical, fine-textured ascending winter branching

-other possibilities: *Pyrus calleryana*, *Tilia cordata*

### Cultivars – Variants – Related species

-'*Carpinus betulus* 'Columnaris' - a distinctly upright columnar to narrow teardrop growth habit, densely foliated, a much smaller version (to 25' x 10') of the species, noted for its dark green summer foliage and aristocratic appearance; great for complementing buildings with strong vertical lines; usually limbed up during nursery growth

-'*Carpinus betulus* 'Fastigiata' - most common form available, (to 30' x 20'), distinctly spreading with age; a liability is that the central co-dominant branches may eventually decline and die, possibly due to girdling by the closely-packed competitive side branches, eventually leading to central wood decay.