

A Bonsai Close-up on *Carpinus turczaninowii* Korean Hornbeam
By Pauline Muth copyright 1997, updated 2002,2004

This hornbeam has shiny, smooth, small leaves placed alternately on fine branches. This fine ramification makes it an ideal specimen for bonsai in all styles. The bark is light in color with a wonderful bumpy texture. It is a rapid grower in the spring that needs frequent trimming to develop a well-branched masterpiece.

When **trimming branches**, take care to select the cutting point so that the new branch will develop in the direction planned. Remove buds or young branches that point upwards or downwards early in the spring. Allow several leaves to develop, then cut back to one or two leaves on each new branch.

It will take a **hard pruning** early in the spring before the buds swell. This tree can be cut back to trunk only if it was growing vigorously the season before the cut. Hard pruning done later in the season can result in dieback. If this late pruning is necessary, be sure to leave a stub that can be removed during the next spring. Fall produces a wonderful color change from apricot to yellow as the weather cools and the leaves drop.

Medium to large specimens are becoming rare since Korea has placed severe restrictions on collecting. Specimens grown from seed or cuttings often produce straight trunks well suited for group or forest plantings. **To develop good taper** for individual specimens, the tree must be kept cut back severely as it grows. Sacrifice branches grown low on the trunk can also be used to develop a good trunk. The scarring that will develop when these branches are eventually removed and can add to the character of the tree. The cambium and bark tends to pull back from large cuts so you will need to treat the fresh cut. Interestingly enough a hemorrhoid ointment with vitamins works well to heal cuts on this and other deciduous trees.

Outdoors in the growing season, hornbeam leaves can burn easily so provide a lightly shaded growing area. Keep the bonsai well watered. Hornbeams quickly show heat and dryness stress. This tree benefits from addition of gypsum to the soil to help prevent leaf burn. Stress damage will affect the tree for the remainder of the summer. It will recuperate the next spring. Take care to give developing trees adequate water during the summer

months. Older specimens should be kept evenly moist but they will not require the extra water younger trees need. The twigs of the hornbeam are easily killed by winter frost so winter protection is needed. In zone 4, a cool greenhouse is needed.

Fertilize with a weak water-soluble solution throughout the growing season or use a product such as Bio-Gold. Add a dose of trace elements and iron in the early spring. In the fall, fertilize with Potash to stabilize the roots for the winter. Fall is also a good time to apply phosphate but avoid nitrogen compounds, as they will provide weak growth that will die in winter and weaken your tree. Hornbeam grows best with a symbiotic fungus in the soil. Spores are available commercially or if you live near a stand of hornbeam you will find the fungus as white threads among the leaf litter under the trees. This can be transferred into your soil.

Young trees need **repotting** every other year. Mature trees should be checked and repotted only when needed. All repotting must be done in early spring before the leaves bud out. Hornbeams appreciate an open soil that will provide strong root growth. Use an open soil mix that allows good drainage, a reserve of oxygen, and that can be kept evenly damp. When repotting after the leaves have opened take care to not disturb the roots.