



## *Ulmus parvifolia* Chinese Elm<sup>1</sup>

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### INTRODUCTION

An excellent tree that is surprisingly under-used, Chinese Elm possesses many traits which make it ideal for a multitude of landscape uses (Fig. 1). A fast-growing, deciduous or evergreen tree, Chinese Elm forms a graceful, upright, rounded canopy of long, arching, and somewhat weeping branches which are clothed with two to three-inch-long, shiny, dark green, leathery leaves. Some specimens grow in the typical vase-shaped elm form. In colder regions of the country in fall, leaves are transformed into various shades of red, purple, or yellow. The tree is evergreen in the southern extent of its range. The showy, exfoliating bark reveals random, mottled patterns of grey, green, orange, and brown, adding great textural and visual interest, especially to its winter silhouette. Chinese Elm can reach 80 feet in height but is more often seen at 40 to 50 feet, making it an ideal shade, specimen, street or parking lot tree. They look very nice planted in a grove or along a street.

### GENERAL INFORMATION

**Scientific name:** *Ulmus parvifolia*

**Pronunciation:** UL-mus par-vih-FOLE-ee-uh

**Common name(s):** Chinese Elm, Lacebark Elm

**Family:** *Ulmaceae*

**USDA hardiness zones:** 5B through 10A (Fig. 2)

**Origin:** not native to North America

**Uses:** Bonsai; large parking lot islands (> 200 square feet in size); wide tree lawns (>6 feet wide); medium-sized parking lot islands (100-200 square feet in size); medium-sized tree lawns (4-6 feet wide); recommended for buffer strips around parking lots or

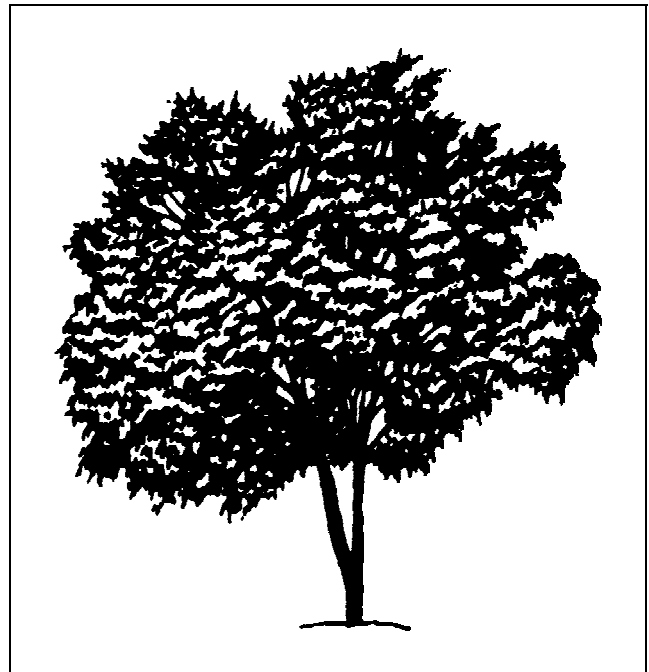


Figure 1. Middle-aged Chinese Elm.

for median strip plantings in the highway; reclamation plant; shade tree; small parking lot islands (< 100 square feet in size); narrow tree lawns (3-4 feet wide); specimen; sidewalk cutout (tree pit); residential street tree; tree has been successfully grown in urban areas where air pollution, poor drainage, compacted soil, and/or drought are common

**Availability:** generally available in many areas within its hardiness range

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Figure 2. Shaded area represents potential planting range.

### DESCRIPTION

**Height:** 40 to 50 feet  
**Spread:** 35 to 50 feet  
**Crown uniformity:** irregular outline or silhouette  
**Crown shape:** round; vase shape  
**Crown density:** moderate  
**Growth rate:** medium  
**Texture:** fine

### Foliage

**Leaf arrangement:** alternate (Fig. 3)  
**Leaf type:** simple  
**Leaf margin:** serrate; serrulate  
**Leaf shape:** elliptic (oval); obovate; ovate  
**Leaf venation:** pinnate  
**Leaf type and persistence:** deciduous  
**Leaf blade length:** less than 2 inches  
**Leaf color:** green  
**Fall color:** purple; red; yellow  
**Fall characteristic:** showy

### Flower

**Flower color:** green  
**Flower characteristics:** fall flowering; inconspicuous and not showy

### Fruit

**Fruit shape:** oval  
**Fruit length:** < .5 inch  
**Fruit covering:** dry or hard  
**Fruit color:** brown  
**Fruit characteristics:** does not attract wildlife; inconspicuous and not showy; no significant litter problem

### Trunk and Branches

**Trunk/bark/branches:** bark is thin and easily damaged from mechanical impact; droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; routinely grown with, or trainable to be grown with, multiple trunks; showy trunk; tree wants to grow with several trunks but can be trained to grow with a single trunk; no thorns

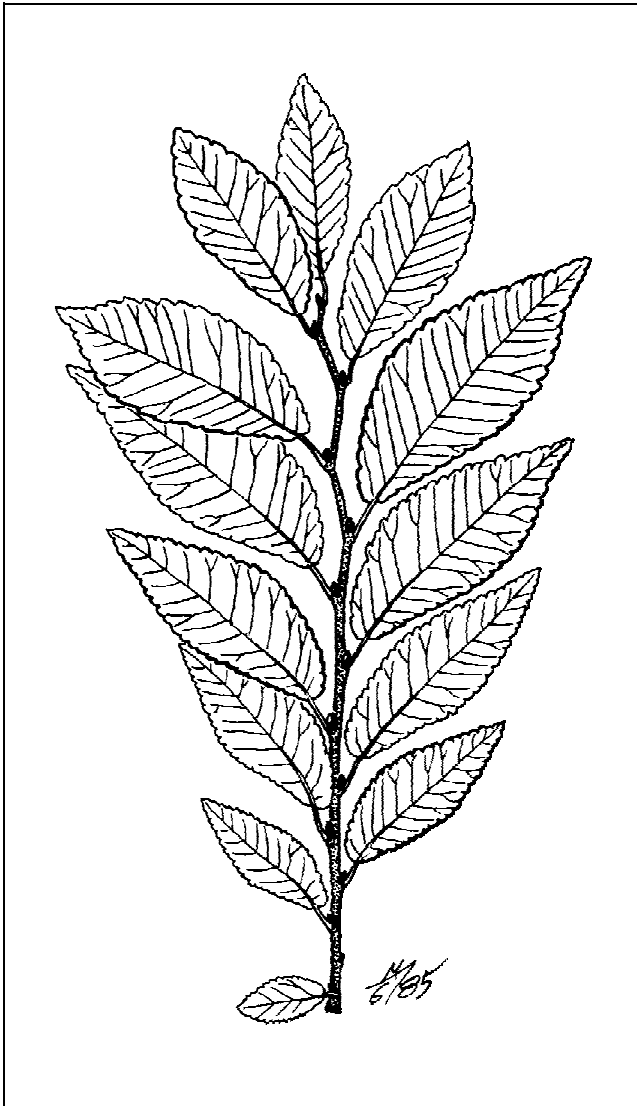


Figure 3. Foliage of Chinese Elm.

**Pruning requirement:** requires pruning to develop strong structure

**Breakage:** resistant

**Current year twig color:** brown; gray

**Current year twig thickness:** thin

### Culture

**Light requirement:** tree grows in part shade/part sun; tree grows in full sun

**Soil tolerances:** clay; loam; sand; acidic; occasionally wet; alkaline; well-drained

**Drought tolerance:** high

**Aerosol salt tolerance:** moderate

### Other

**Roots:** surface roots are usually not a problem

**Winter interest:** tree has winter interest due to unusual form, nice persistent fruits, showy winter trunk, or winter flowers

**Outstanding tree:** tree has outstanding ornamental features and could be planted more

**Invasive potential:** little, if any, potential at this time

**Ozone sensitivity:** sensitive or moderately tolerant

**Verticillium wilt susceptibility:** susceptible

**Pest resistance:** long-term health usually not affected by pests

### USE AND MANAGEMENT

Select trees with branches spaced along one trunk. It is not essential that this trunk be straight. Buy from nurseries who understand how to train and prune this tree for street and parking lot use, otherwise you may be trimming and pruning low drooping branches on a regular basis.

Trees which have a trunk less than about two inches in diameter often require staking and some early pruning to prevent leaning and blowover due to a heavy crown and unstable root system. Nursery operators often train trees to a single, straight trunk by staking at an early age. Leave branches on the lower trunk during this training period to encourage caliper development on the lower trunk. Older trees look nice with an occasional light thinning to show off the wonderful trunk and branch structure.

Please do not confuse it with *Ulmus pumila*, the Siberian elm. Siberian Elm is far inferior to Chinese Elm and should not be planted, except perhaps in extreme climates such as the drier parts of the Midwest where the limits of most other trees are tested.

Chinese Elm is sometimes topped in the nursery to create a full head of foliage, and branches originate from one point on the trunk. There is not enough room on the trunk to support this type of branch structure, and some may split out from the tree as it ages. This tree may take more effort to properly train and prune when young than some other species but it is well worth the effort. It will have a long service life in urban areas with proper training early on.

The root system is comprised of several very large-diameter roots which can grow to great distances from the trunk. These are usually located fairly close

to the surface of the soil and can occasionally lift sidewalks. They can get into sewer lines causing damage. But they are usually not a problem and should not be cause to eliminate this tree from your urban tree planting program. This is among the top urban trees on most recommended tree lists in the South and mid-West. Occasionally, root suckers emerge from beneath the canopy and will require pruning.

Chinese Elm will grow in full sun on a wide range of soils, adapting easily to extremes in pH (including alkaline) or moisture, and tolerates urban heat, and wind. Trees will look their best, though, when grown in moist, well-drained, fertile soil but they adapt to drought and the extremes of urban sites. Very suitable for street tree pits, parking lot islands, and other confined soil spaces.

Many cultivars are available for size and form: 'Catlin' is dwarf; 'Drake', USDA hardiness zones 7 to 9, has small, dark green leaves, sweeping, upright branches forming a rounded crown, and greater leaf retention being almost evergreen in California and Florida; 'Dynasty' has smooth, dark grey bark, smaller leaves and is vase-shaped, with red fall color in the north; 'Frosty' has a small (0.75-inch-long), white-margined leaf which may revert back to green; 'Emer I' has a dark green, fine-textured uniform crown comprised of ascending branches with bright orange, grey and brown exfoliating bark. It is a brand new introduction and the parent tree is reportedly 50 years, 32 feet tall and 54 feet wide; 'Golden Rey' is reportedly hardy to USDA hardiness zone 6, is a moderate grower and may be denser and more compact than the species. This cultivar was selected for its yellow new foliage color which deepens to golden yellow in autumn; 'Pathfinder' has been extensively tested in Ohio for 30 years (USDA hardiness zone 5a). It has a single trunk with broad, upright branches and grows at a moderate height. Bark is nicely exfoliating, fall color is a rich red and this National Arboretum/Ohio Research Site introduction tolerates wet and dry soil. A good tree for tough sites; 'Sempervirens (Pendens)' is more round-headed, weeping and spreading with persistent foliage, almost evergreen in USDA hardiness zones 8b through 10; and 'True Green' has glossy, deep green leaves, a graceful, round-headed outline, and tends to be evergreen.

Propagation is by seed, summer cuttings, or grafts.

## **Pests**

This elm's pests are borers and chewing insects. It shows considerable resistance to elm leaf beetle and Japanese beetle.

## **Diseases**

It is usually resistant to Dutch Elm Disease and phloem necrosis. Cankers may develop on young trunks where soil is excessively wet. These occur on nursery and landscape trees. The causal agent has not been identified but theories abound. Twig blight can be an occasional problem.