

# American Elm

*Ulmus americana*

## Twig & Bud



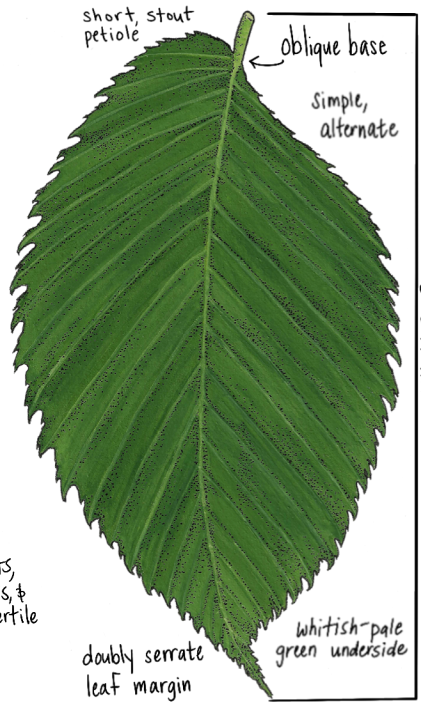
## Bark

Young trees have splitchy grayish-brown bark w/ soft, spongy vertical strips or scales; may show small patches of white from fallen scales; mature trees develop thicker, tougher interlacing ridges



a cross-section of thicker bark shows alternating layers of white & brown (like a water)

## Leaf

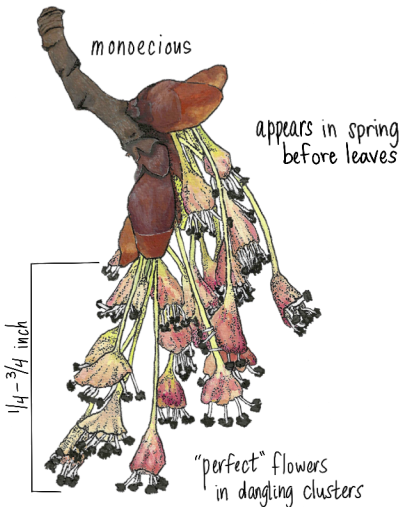


3 - 5 1/4 inches

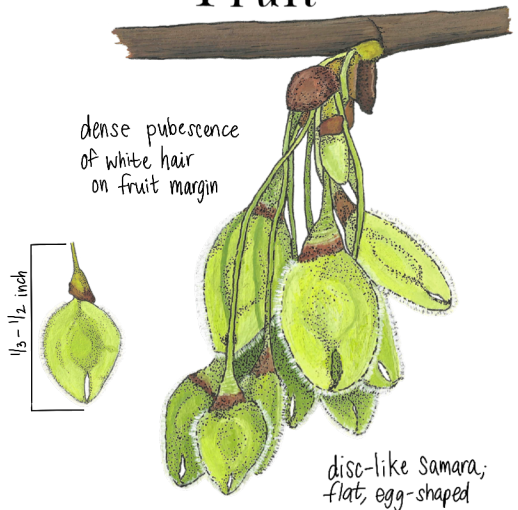
## Habitat

Loamy soils; found on bottomlands, alluvial flats, & margins of streams, ponds, & lakes; also common on fertile uplands & along streets

## Flower



## Fruit





# TREE OF THE MONTH

American Elm • *Ulmus americana*

ALSO KNOWN AS: WHITE ELM, WATER ELM, SOFT ELM

The American elm (*Ulmus americana*) is an iconic deciduous tree in the Ulmaceae, or elm, family. It commonly reaches heights of 60-80 feet and can grow up to 125 feet in ideal conditions. It has a distinct vase-shaped silhouette in which the trunk remains straight, tall, and without branches before separating into erect, spreading limbs that strongly arch before pendulously drooping downward; however, there is another form where the crown is more broad and upright. You'll often see a buttressed base on American elms, where the root structure will rise above the ground at the base, creating short, vertical "walls." The branches, leaves, and twigs grow in an alternate pattern.

American elm is found in a variety of habitats throughout eastern North America, from southern Canada to parts of Florida and Texas. This species thrives in loamy soils and is common in areas that flood, such as bottomlands and alluvial flats, and on the edge of streams and bodies of water. It also does well in fertile uplands, and they're often seen planted along streets.

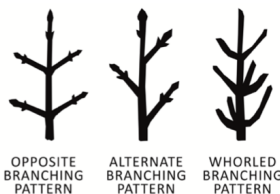
American elm leaves are simple and alternately arranged with an elliptic, oval shape. The petiole is short and stout, and the base of the leaf is very uneven or oblique. Many straight, parallel veins run from the **midrib** to the coarsely **doubly serrate** leaf margin. The top of the leaf can be smooth or have a rough, sandpaper-like texture; the underside is a whitish-pale green.

The bark is a splotchy grayish-brown on young trees and has soft and spongy vertical strips or scales. The scaly vertical strips may persist as the tree ages. Fallen scales reveal small, white patches on the trunk. A cross-section of thicker bark will show alternating creamy white and reddish-brown layers, similar to a wafer cookie. Mature American elms have thicker and tougher interlacing ridges.

American elm twigs are distinctly zig-zag, reddish brown, and can be hairy or smooth. The twig has a half-round **leaf scar** with three obvious **bundle scars**. This species has two types of winter buds: leaf and flower buds. The leaf buds are more elongated and pointed than the flower buds, which are stouter and somewhat round. Both types of twig buds have several scales that overlap like shingles on a roof and are darker on the margins.

American elms are monoecious, meaning an individual tree produces both male and female flowers. This species also has perfect flowers, with the male and female reproductive parts on each individual flower. Flowers appear in dangling clusters of 5 to 15 during spring before the leaves emerge. The flowers soon turn into fruit, a winged seed called a samara; it's disc-like, flat, and egg-shaped. The tip of the samara is typically cleft and has two hook-like lobes. There are dense, short, white hairs on the fruit margin. They mature in early summer.

American elms are the larval host plant to several butterflies and moths, including eastern comma, mourning cloak, Columbia silkmoth, question mark, and painted lady. A number of small songbirds also eat their seeds.



With its stately form and ability to live for hundreds of years, it's no wonder why American elm was once the quintessential street and lawn tree. However, in the early 1900s, a Cleveland businessman began bringing over a European elm species for logging. With it came a bark beetle that carried a fungus to which the American elms had no immunity, leading to the rapid decimation of American elm trees. This fatal fungal pathogen is referred to as Dutch Elm Disease (DED).

DED has two components: a sac fungus and a bark beetle. The fungus essentially rides on the back of these little beetles, which eat their way into the bark of an elm. When the beetle burrows into the bark, it creates a small wound in the tree. If the beetle has fungal spores from another diseased tree, it's walking those harmful spores underneath all the protections of the tree. The DED fungus invades and blocks the water-conducting systems of trees, which results in wilting and death.

Today, it's rare to find large ones that aren't a **cultivar**.



Tree of the Month is sponsored by Berkshire Environmental Action Team, a 501(c)(3) nonprofit organization located in Pittsfield, MA. Find more Trees of the Month at [www.thebeatnews.org](http://www.thebeatnews.org).

**doubly serrate:** edges of leaf that have saw-like teeth and each tooth bearing a small tooth

**midrib:** the central vein or ridge of a leaf

**leaf scar:** the mark left on the twig when a leaf falls off

**bundle scar:** marks left within a leaf scar where the vascular tissue once was, often appearing as tiny dots

**cultivar:** a species variety that's been selectively bred