ANHUI ELM

COMMON NAME

Ulmus gaussenii

SCIENTIFIC NAME

The Morton Arboretum

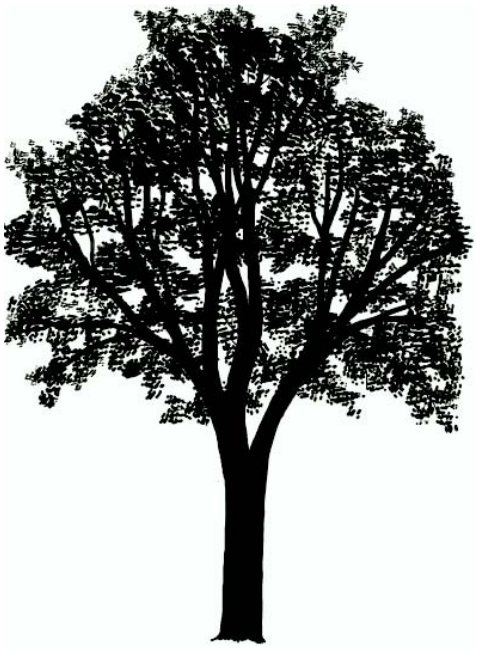


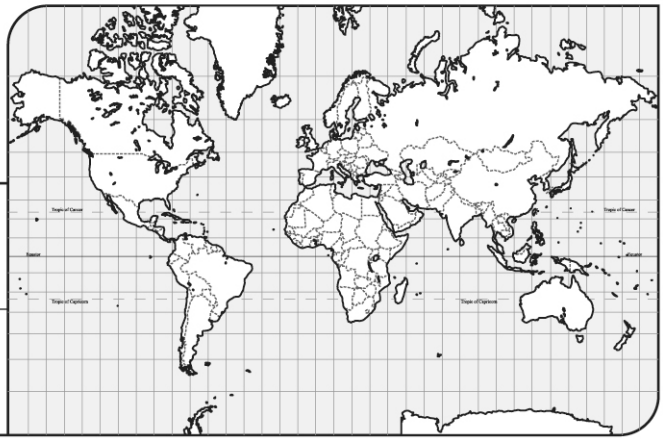
Photo Credit: The Morton Arboretum

Importance

Called *zui weng yu* in China and sometimes also called hairy elm, the Anhui elm is now possibly the rarest and most endangered elm species and one of the most endangered trees in China.

This tree is important not only for its beauty and rarity – but because this tree is resistant to Dutch elm disease. American elms used to be one of the most popular street trees, lining the streets in towns all over the United States. Dutch elm disease decimated the population, killing over 100 million American elms, and is still a threat to elms today. Wild trees such as the Anhui elm that are naturally resistant to the disease provide resources for breeding new trees that can resist this and other diseases. But the tree is rarely seen in cultivation and only 30 wild trees remain.

Observations at The Morton Arboretum in Lisle, Illinois, indicate that some of the elm species from China have excellent promise as urban trees.



Elm family (*Ulmaceae*)

FAMILY

Critically Endangered

RED LIST CATEGORY

George Ware, former research director at The Morton Arboretum, spearheaded efforts in the late 1980s and 1990s to collect Chinese elms and observe them in the United States for their use as urban trees. Preserving species such as the Anhui elm increases our chances of breeding hardier trees and to retain the untapped potential of these trees for the future.

Description

Form: A stately tree with a spreading canopy and slender trunk, this deciduous tree can grow to over 80 feet (25 m) tall, with a trunk of over 2.5 feet (up to 80 cm) in diameter.

Leaf: The Anhui elm has glossy green oval leaves with toothed edges and pointed tips. Leaves are densely fuzzy when young, but keep their hairs only along the leaf veins as they age. As in other elms, the base is oblique – the two edges of base of the leaf do not quite line up. The petiole is 4 to 8 mm and is characteristically hairy, and the species typically has 8 to 10 secondary veins on each side of the midvein.

Flower: The tiny, wind pollinated flowers have no petals, and tend to have a 4 to 5 lobed perianth (the outer flower parts) with hairy edges.

Fruit: The fruit is a large, oval to orb shaped samara 0.5 to 1 inch long (1.7 to 2.7 cm) with a rounded base. The samaras and their sort stalks are densely hairy, with the seeds in the center. Both flowers and fruits appear in March through April.

Bark & Twigs: The bark is dark gray to almost blackish, with thick, shaggy, longitudinal fissures. The twigs of this tree are densely fuzzy or hairy in the first two years, with occasional yellowish brown spots (lenticels) and sometimes with opposite flat, corky wings. Winter buds tend to be globular and oval shaped, with hairy margins along the edges of the bud scales.

Habitat and Ecology

Native to the Anhui region of China, the Anhui elm is distributed over approximately 10 ha in the Langya Hills. This species is confined the valleys of limestone mountains in deciduous forest and along river banks from 2300 to 5900 feet (700 to 1800 m). The tree is often found on flood plains, indicating a tolerance for periodically wet soils and standing water.

Threats

Because the population of the Anhui elm – only 30 mature trees – is so small, any threat to the existing habitat could result in extinction for this species. In addition, most of the standing trees are older and may be nearing the end of their lifespan. While there is some growth of new trees in the wild, reproduction is limited. Both protecting the existing trees and extremely limited habitat for these trees and assisting with propagation of this majestic elm will be critical to the survival of the species.

Conservation Action

Because of the small population size of this tree and its limited distribution, protecting the existing habitat and reintroduction of new trees of these species are conservation priorities. Research on the tree, its habitat requirements and reproduction is an ongoing and crucial effort for the survival of this tree. Collaborative efforts among arboreta, botanical gardens, and scientific organizations to acquire and distribute seeds and seedlings

for conservation efforts outside of the native habitat at those institutions are helping to aid in our understanding of this species and its reintroduction. This species is currently being cultivated in Jiangsu in Nanjing, at The Morton Arboretum in Lisle, Ilinois, and at other botanical institutions. Want to help? Visit or support The Morton Arboretum, which is using Anhui elms to breed more disease-resistant elm trees.

References

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