



Mountain Hemlock

Scientific Name: *Tsuga mertensiana*



Summary

The mountain hemlock is a slow growing evergreen conifer native to the mountains of western North America from south central Alaska through the Cascades and Sierra Nevada into central California. At maturity it typically reaches 75 to 100 feet tall, although some may exceed 160 to 180 feet. The crown is narrowly conical especially in younger trees with slightly drooping branch tips.

Leaves are soft, blunt tipped, arranged radially around the twig, and often have a bluish green cast. They have stomata on both upper and lower surfaces which helps distinguish mountain hemlock from other hemlocks. A stoma is a tiny pore on the surface of a tree's leaf that acts like a mouth, controlling the

intake of carbon dioxide and the release of oxygen and water vapor.

In late summer to fall the tree produces pendulous cylindrical seed cones that are among the largest in its genus. Young cones are often purplish, turning red brown when mature.

Ecology and Habitat

Mountain hemlock thrives in cool moist climates often where winters bring heavy snow and summers remain relatively cool. Its natural elevation range varies with latitude from sea level in parts of Alaska up to 3050 meters in the Sierra Nevada. It prefers acidic well drained soils.

Fire Effects

Mountain hemlock is highly sensitive to fire. Its thin bark, shallow root system, and low moisture content make mature trees susceptible to mortality during high intensity fires. Young seedlings and saplings may be killed by low to moderate severity fires, and natural regeneration is slow because the species relies on seed dispersal rather than



sprouting. Mountain hemlock forests generally recover from fire over long periods and fire plays a limited role in shaping the composition of these ecosystems.



References:

- Calflora *Tsuga mertensiana* Retrieved from <https://www.calflora.org>
- Conifers.org *Tsuga mertensiana* Retrieved from https://www.conifers.org/pi/Tsuga_mertensiana.php
- USDA Forest Service Research *Tsuga mertensiana* Retrieved from <https://research.fs.usda.gov/feis/species-reviews/tsumer>

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