

Tree of the Month, April 2017: Dwarf eastern Hemlock (*Tsuga canadensis* 'Curley')

Eastern hemlock (*Tsuga canadensis*) is the largest conifer in eastern North America, with trees reaching more than 30 m tall. The species can live over 500 years and the oldest known specimen, found in Tionesta, Pennsylvania, was just a seedling back in the 15th Century. Native from southern Ontario, Quebec and Nova Scotia in Canada, to the Appalachian Mountains in Georgia and Alabama, eastern hemlock prefers moist, shady sites and grows in woody ravines, valleys, coves and on shady slopes.

Eastern hemlock has delicate dark green branches with an almost lacy growth pattern. The twigs have two opposite rows of short flat needles (up to 1 cm long) and a third row of tiny needles flattened against the upper surface of the twig. This species has the smallest needles and cones of any hemlock (*Tsuga* species) with tiny brownish purple cones, about 2 cm long, which ripen in autumn.

'Curley' is a dwarf cultivar of eastern hemlock, with a short, twisted, compact crown and tiny curled needles. It was introduced to cultivation in 1969 by well-known plantsman Harold Epstein of New York, who found it growing in a friend's garden. Epstein was the head of the American Rock Garden Association, Greater New York Orchid Society and the Northeast Region of the American Rhododendron Society. He also introduced the ever-popular golden variegated hakone grass (*Hakonechloa macra* 'Aureola') to cultivation.

Tsuga is the Japanese name for hemlock and eastern hemlock was given the specific epithet *canadensis* because the earliest specimens brought back to Europe were from Canada. The species was named by French botanist Élie-Abel Carrière in 1855.

Eastern hemlock is threatened by the woolly adelgid, an aphid-like sap-sucking insect from Eastern Asia that was accidentally introduced to the United States in 1924. The insect feeds on the phloem sap of young shoots, defoliating and eventually killing the tree. Eastern hemlock populations have decreased since the insect appeared in the tree's native range in the 1960s, and the International Union for the Conservation of Nature (IUCN) lists this species as "near threatened". Eastern hemlock is also quite sensitive to drought and climate change may bring hotter, drier summers to Eastern North America, reducing its population even further.

At VanDusen, *Tsuga canadensis* 'Curley' can be found in the Heather Garden.



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