

Plant Profiles: HORT 2242 Landscape Plants II

Botanical Name: *Metasequoia glyptostroboides*

Common Name: dawn redwood

Family Name: Cupressaceae - cypress family, sometimes placed in Taxodiaceae

General Description: *Metasequoia glyptostroboides* is a beautiful tree with a fascinating history. Considered a "living fossil" dawn redwood was at one time known only from fossilized remains and considered extinct. That changed in the 1940's when botanist discovered living specimens in China. Through a cooperative effort between Chinese botanist and Arnold Arboretum this plant was introduced into the United States in 1948. Since then it has become a popular landscape tree across the country. Much of the plant material grown outside of China comes from the same original seed source and carries very little genetic variability. In addition, this tree is planted extensively in China as a street tree grown primarily from rooted cuttings. This practice also leads to little genetic diversity. Unfortunately, native populations of *Metasequoia glyptostroboides* have diminished and it is considered critically endangered. Efforts are being made to protect and conserve this important piece of history. Dawn redwood is a very fast growing large tree that grows best in full sun on moist, even wet, sites. It continues growth well into summer which can occasionally lead to stem damage from an early fall freeze.

Zone: (4)5-8

Resources Consulted:

Davis, Becke. "ILCA Presents-Deciduous Conifers: In a Class by Themselves." *Landscape Contractor* June 2003: 29-36. Print.

Dirr, Michael A. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses*. Champaign: Stipes, 2009. Print.

"Vanishing Acts Resource Guide: Dawn Redwood (*Metasequoia glyptostroboides*)." *Science & Conservation*. Morton Arboretum, 2011. Web. 14 Feb. 2014.

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Keywords/Tags: Cupressaceae, tree, conifer, cone, needle, deciduous, dawn redwood



Whole plant/Habit:

- Description: *Metasequoia glyptostroboides* is a pyramidal tree with a strong central leader. The branches are wide-spreading, ascending at the tip.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: November 21, 2008
- Image File Name: dawn-redwood_1080542.png



Whole plant/Habit:

- Description: Notice the single trunk tapering to a slender central leader. Dawn redwoods grow rapidly and continue to put on new growth all season. If there is an early fall frost the stem tips or central leader may get damaged and influence the apical dominance. Often however, another stem at the top of the tree will take over and become dominant or can be trained to do so.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: March 16, 2009
- Image File Name: dawn_redwood_1110687.png



Whole plant/Habit:

- Description: *Metasequoia glyptostroboides* (dawn redwood) and *Taxodium distichum* (baldcypress) have a similar pyramidal habit; however, dawn redwood is generally narrower and slightly pointed at the top.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: July 10, 2005
- Image File Name: dawn_redwood_3032.png



Bark:

- Description: The bark is reddish-brown, with vertical shredding strips and is quite ornamental.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: November 21, 2008
- Image File Name: dawn_redwood_1080540.png



Bark:

- Description: The base of the trunk flares out and becomes buttressed and fluted.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: dawn_redwood_1040415.png



Branch/Twig:

- Description: There are two kinds of branches, called branchlets, on dawn redwood. The *persistent* branchlets are reddish-brown with opposite vegetative buds. In this image we also see the female cones which will be discussed later.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: April 12, 2009
- Image File Name: dawn_redwood_1120793.JPG



Branch/Twig:

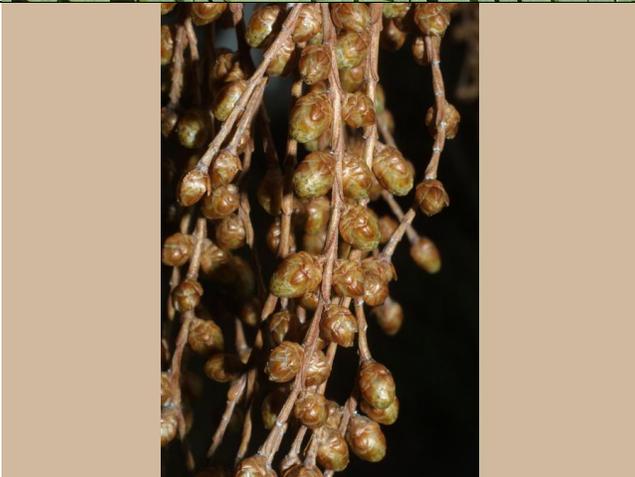
- Description: The *deciduous* branchlets are green and hold the feathery needle-like foliage. It looks somewhat like a compound leaf but is actually a branchlet with needles. After the foliage turns bronze/russet color in autumn the whole branchlet will abscise and fall to the ground.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: July 10, 2005
- Image File Name: dawn_redwood_3031.png

**Bud:**

- Description: The reddish-brown buds on the *persistent* branchlets of dawn redwood are opposite to sub-opposite (sometimes single) and stick straight out from the persistent stem. The opposite buds are a great identifying feature and helps separate dawn redwood from baldcypress which is alternate.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: April 12, 2009
- Image File Name: IMG_1261.JPG

**Bud:**

- Description: The young buds in this image are paired at the base of the deciduous branchlets.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: dawn_redwood_3564.png

**Flower:**

- Description: *Metasequoia glyptostroboides* is monoecious. The male pollen bearing structures are light brown, ovoid and hang in long spike-like clusters. The female cones are produced on the same tree.
- Image Source: (c) 2004 [Steven J. Baskauf](http://bioimages.vanderbilt.edu/)
- Image Date: Unknown
- Image File Name: hmeq18-comale31003.jpg

**Cone:**

- Description: The female cones of dawn redwood hang solitary from long stalks. They are a waxy blue-green color when immature, turning brown at maturity. The cone scales look like lips! These distinctive cone features will aid in identification.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: 2008
- Image File Name: dawn-redwood_4081s.png

**Leaf Number/Attachment:**

- Description: Dawn redwood has soft, fine-textured fern-like foliage. The needles are flat and attach opposite on the deciduous branchlets. They are bright green in spring, darker green during summer and finally in autumn they turn a rich russet bronze before falling.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: September 7, 2008
- Image File Name: dawn_redwood_3563.png

**Winter interest:**

- Description: This tree has winter interest due to the reddish cast to bark and stems, pyramidal form and showy fluted trunk. The opposite buds of *Metasequoia* are especially evident during the dormant season and help identify this tree.
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: February 1, 2011
- Image File Name: dawn_redwood_1250079.png



Special ID feature(s):

- Description: The habit, foliage and bark features of dawn redwood can easily be confused with *Taxodium distichum*. In addition to the bud/leaf arrangement already discussed, a unique feature of dawn redwood is the dark “armpit” or depression that forms under the attachment of larger branches to the trunk. Great identification feature!
- Image Source: Karren Wcisel, TreeTopics.com
- Image Date: November 21, 2008
- Image File Name: dawn-redwood_1080541.png