

The Plantsman's Choice

Presenting promising urban trees

Dawn redwood

Metasequoia glyptostroboides.
(Kivis Esperöd)

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The dawn redwood (*Metasequoia glyptostroboides*) is a relatively new introduction to cultivation but it has already gained popularity in private parks and gardens. However, it could be used much more widely in green infrastructure because of its remarkable seasonal qualities and fast growth.

The genus *Metasequoia* was described by the botanist Shigeru Miki in 1941 based on fossils in Japan. Living specimens of this new genus were found growing wild in China the same year but were not collected until 1944. These newly discovered trees were described as *M. glyptostroboides* in 1948. The Chinese officials from the University of Nanjing who travelled through the border areas between the provinces of Sichuan and Hubei and found this strange new tree were told by the locals that it was called 'sui-sa', meaning 'water fir'. This name reveals something about where the species naturally grows: along ravines and the banks of streams.

In 1948 the Arnold Arboretum at Harvard University, Boston, distributed seedlings of the species to various universities and arboreta worldwide for growth trials. There are many tree collections in North America and Western Europe that still have trees from this generation of dawn redwoods and they have been important for the evaluation of the species' growth and hardiness.

Today, the dawn redwood is no longer a rarity; it is a standard tree in tree nurseries and can be obtained in really large sizes. In

China, the species is important economically for many farmers who grow it for timber and firewood because of its strong growth in the summer-warm regions of central China. Even in urban environments the species is used extensively in China, as its narrow, conical crown makes it suitable for planting close to buildings and the dense foliage cools buildings during the summer.

In Europe, dawn redwood is mainly a much appreciated garden and park tree since the species requires good soil moisture. If it is exposed to warm and too dry conditions, it drops its needles but it then develops new shoots when conditions become cooler and wetter. On drier sites, the dawn redwood grows slower but is moderately tolerant to drought. In China, it is clear that the species performs well in paved environments in warm and dry regions. However, more research is needed in order to provide better understanding of its tolerance to different abiotic stresses so that its use can extend beyond garden and park environments. Most literature states that the species needs a long warm summer, but in fact it grows well in the summer-cool region north of Stockholm in Sweden. In some years it suffers from late



Metasequoia glyptostroboides 'Goldrush'

Dawn redwoods at RHS Wisley.



spring frosts which burn the newly developed needles but the effect is not long-lived as the tree quickly develops new needles.

The dawn redwood is a real adornment for public parks because of its strong pyramidal crown which stands in contrast to many other trees. Its seasonal qualities are also valuable: the needles are light-green when they emerge and then darken during summer before turning a foxy- or pinkish-brown before abscission in the autumn. The species also creates spectacular shade in summer, whilst in winter the orange-red trunk stands out from other trees. If an even stronger character is wanted, you could consider the cultivar 'Goldrush' with its golden-yellow needles in early summer.

One aspect that distinguishes the species from many other coniferous trees is its growth rate, which when a tree is young can be as much as 1m in height annually. In experimental plantations at the Swedish University of Agricultural Science in Alnarp, dawn redwood has been tested as a nursery tree in designed forest plantations where it has outgrown other fast-growing species such as larches, birches and alders. This intense growth as a young plant also makes the species very easy and fast to transplant and establish. However, at a young age it does appear to be more sensitive to drought, so will require irrigation throughout the establishment period.



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Dawn redwood in London.