



Two Trees - Maggie Campbell-Culver

I would like to introduce you to two extraordinary trees, both from China and both of them with a traceable history of millions of years.

The first one, which perhaps you already know, or indeed might have growing in your garden is *Ginkgo biloba* a deciduous tree, that can reach over a 100ft high . All the Ginkgos growing throughout the world are descended from two or three specimens that were noticed growing in both China and Japan in association with monasteries during the 17th century. In fact the tree has only ever been found in the wild growing as a small stand in the Heavenly Mountains in Tianshan mountains in the far eastern region of China. It is a single fossil leftover of the strange floral world of 350 million years ago and the evidence of this coincides with where it now grows the Zhejiang province in eastern China. The tree lasted in one form or another until, in Europe, it disappeared in fossil form 2 .5 million years ago. They had already gone from the North American continent, and some experts believe it was the disappearance of the dinosaurs and their use in dispersing the seeds that hastened the Ginkgo's disappearance.

In England it has the vernacular name of the Maidenhair tree, because its leaves are shaped rather like a half-opened fan, that looks similar to the Maidenhair fern. The first the West learned about the Ginkgo (and the camellia) was as early as 1712, and came from the notebooks of Engelbert Kämpfer a physician and botanist who died in 1715, he had earlier worked for the Dutch East India Company at Deshima, Nagasaki in Japan. The seeds of the tree arrived in Europe about 1730, and there are two venerable trees still extant in Vienna, which are believed to be the oldest in Europe. Kew were growing them about 20 years later, and it is where the oldest Ginkgo grows. Originally a seedling was planted on the Duke of Argyll's estate Whitton Place in Twickenham, however when it was about 10 years old in 1762 it was transplanted via a Thames barge to Kew Gardens, and that's where it is today, you can still see it.

They are trees that seems to have no hang-ups about having one of the longest plant pedigrees in the world, they 've adapted to modern life with aplomb, Ginkgoes are grown as street trees in London. The 'fruit' it produces are considered helpful to the stimulation of the brain, and have been tested both with regards to dementia and Alzheimer's disease.

The second fossil tree is equally at home in the 21st century, but was first discovered in China and has a most amazing history. The tree in question is, wait for it, *Metasequoia glyptostroboides* or in other words the Dawn Redwood.

The one tree was first noticed in north-east Sichuan in 1941 by a forester Mr. Kan who was searching for firewood. Because he could not identify it, he sent some of the leaves to Beijing, where they caused a stir and where it was known as the Water Fir. It could grow with its feet in water. In 1947, with the assistance of the Arnold Arboretum, seeds were collected and dispersed among botanic gardens, and a few were sent to Royal Botanic Garden, Kew in 1948.

Before this in 1941 a most extraordinary and remarkable coincidence took place, this time in Japan, where Shigeru Miki, a palæobotanist was working on fossilised material sent to him also by the Arnold Arboretum, and he found what he considered to be a new fossil species which he estimated would have last been seen growing about three million years ago or so it was thought, and about the same time as the Ginkgo disappeared. Finding a new fossil species is a very very rare event, and because he thought it looked similar to the American Coastal Redwood, *Sequoia sempervirens*, Shigeru Miki thought it looked very like the Sequioa, and so gave it its first name *Metasequoia* 'like the sequioa'. A few years later in 1946 the fossil material was re-examined by Professor Hu, head of the Botanical Institute in Beijing. He thought it had similarities to the Chinese Swamp Cypress *Glyptostrobus lineatus*. So the Latin name *Metasequoia glyptostroboides* clearly states what the tree is. It was eventually agreed that the two parts of the puzzle, the single living tree that was found in China during the war and the fossil which was found in America were one and the same and it has turned into one of the most accommodating, fast growing landscape friendly tree - but my word what a history!

