

The **ARB** Magazine

The Arboricultural Association **NEWSLETTER** Issue 159 Winter 2012 www.trees.org.uk

Profile:
Pest and disease focus

Also...

Chainsaw and tree work qualifications

World's longest avenue of dawn redwoods

Enhancing tree defence systems

Defining 'damage' – new court case



NEWS, EVENTS, SCIENCE AND OPINION



The world's longest avenue of dawn redwoods at Pizhou.

The world's longest avenue of dawn redwoods

Mike Browell, Principal at Weddle Landscape Design

Sheffield-based landscape architecture practice Weddle Landscape Design is working on a landscape planning project which includes the longest avenue of dawn redwoods in the world.

Weddle's Greenspace Masterplan is for the new city of Pizhou in Jiangsu Province, China, which has an astonishing 47km long avenue of *Metasequoia glyptostroboides*. The avenue is interrupted by a 13km gap, where a new town has been built. We believe it is the longest avenue of this very rare prehistoric tree species in the world.

I was totally awestruck when I first saw the avenue. I was being shown around the planned new city as part of our briefing for the Greenspace Masterplan. We turned onto the main highway and there they were, thousands of perfect specimens of dawn redwood, one of the rarest trees in the world, stretching away into the distance. At the time I had no idea how far into the distance they stretched. On

my second visit to the city I was able to see half the avenue, and I hope to see the other half soon.

I've seen a few dawn redwoods on my travels, usually as specimens in botanical gardens, but never on this scale. I trained as an arboriculturist in the 1970s, and this tree was the most exciting new tree discovery for students of my generation. We were shown rare specimens in the famous arboreta around Britain, and often challenged to identify this deciduous conifer.

I wasn't expecting to discover a world-record avenue in Pizhou, and I don't think the city government fully realises the enormity of its achievement!

Pizhou's long dawn redwood avenue was planted in 1975 and is now 37 years old. The trees are 15m tall.

More amazingly, Pizhou is criss-crossed by a total of 400km of dawn redwood avenues, comprising a grand total of

8 million of these prehistoric trees. Weddle's are very excited by this discovery as it might put the city of Pizhou on the world environmental tourism map. The nearest competitor is a mere 4km dawn redwood avenue in Korea, and this is already world famous.

The Guinness Book of World Records lists the Nikko *Cryptomeria* Avenue, Imaichi City, Japan, as the longest living tree avenue of any species in the world. This avenue is in three parts at a total length of 35.41km. Pizhou would appear to hold the world record with a 47km avenue.

To put it into perspective, the longest avenue of lime trees in England is at Clumber Park, measuring a total of 4km and numbering 1,296 trees. In the 47km avenue at Pizhou there are over 1 million dawn redwoods.

Until 1948 *Metasequoia glyptostroboides* was thought to be long extinct. Found as fossils in coal measures, it dates back to the dinosaur period, 100 million years ago. This prehistoric tree was thought to have disappeared completely 5 million years ago. However, it became the most important plant discovery of the last century when it was finally announced that a previously unrecorded living species had been discovered in 1943 as a small group of trees growing in Moudao, in Lichuan County, Hubei Province, China.

The local people had always been aware of the tree, which they call water fir, and they had been planting it for over 400 years.

Science & Opinion





Professor Gan Duo of the Department of Forestry at National Central University in Nanjing was the first scientist to take notice of the tree. He found it in winter 1941 when the leaves had dropped so he didn't bring back any specimens. In July 1943 C. Wang from the National Bureau of Forest Research was told about a huge unidentified tree at Moudao, Hubei Province. He collected branch and cone specimens and deposited them, together with other plant discoveries, in the herbarium at the National Bureau of Forest Research. Two years later, in 1945, C. Wang passed his specimen on to Professor W. C. Cheng at the Department of Forestry, National Central University in Nanjing. Professor Cheng sent further plant hunting expeditions in February and May 1946, and a small number of previously unknown trees were found. Initially they were thought to be of a new genus, but in 1948 the material was found to match fossil records for *Metasequoia glyptostroboides*.

Upon hearing the official announcement of the discovery of a new tree species in 1948, Harvard University's Arnold Arboretum sent out an expedition to collect seed and soon after a rush began for specimens to be planted in tree collections worldwide.

After worldwide scientific recognition of the new tree species in 1948, obtaining seeds from their origins in China became impossible because this was the time of the Bamboo Curtain, during which China under Chairman Mao closed its borders to the rest of the world. During the Cultural Revolution the rural landscape of China changed dramatically. A massive programme of land reform occurred where land owned by private landlords was confiscated by the state, and country people were relocated into collective farms. The pattern of farmland changed into large geometric fields without boundaries. Trees and forests disappeared. Major infrastructure projects were part of the reform, including the construction of more roads. Where a new road was required, it was simply a matter of drawing a straight line on the map, because all land now belonged to the state. New roads didn't have new trees.

In 1957, a far-sighted Pizhou Parks Manager, Qingxi Li, brought 100 *Metasequoia* seedlings from Nanjing Forestry College. He had a vision for transforming Pizhou's landscape. The trees and successive generations of seedlings grew well over the following 18 years. However, very few trees were planted in China during the Cultural Revolution, a period when many cities cut down their street trees. Towards the

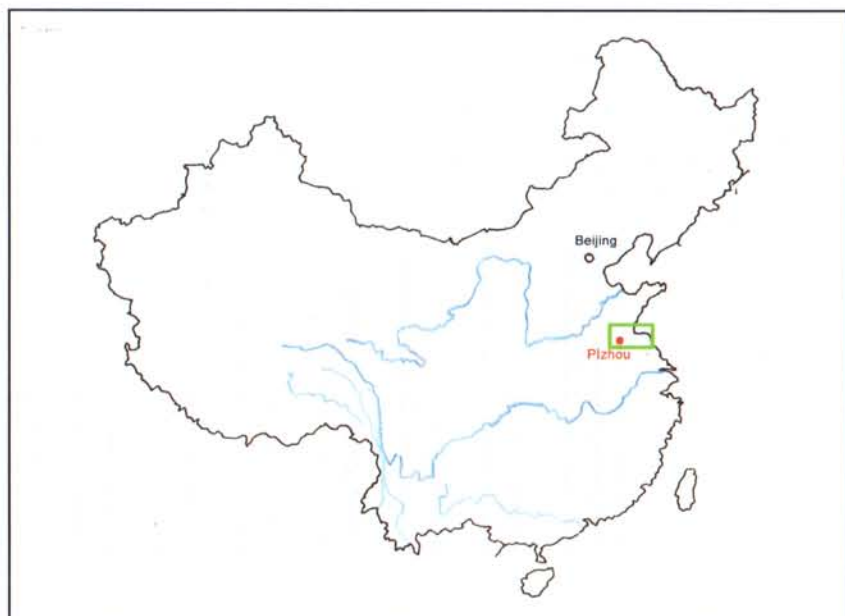


Satellite image showing the location of the Pizhou dawn redwood avenue.

end of Chairman Mao's period this policy was relaxed and in 1975 Qingxi Li began planting the world's longest dawn redwood avenue along the main road through Pizhou County, 60km long. There were no restrictions to tree planting, no objections from landowners, and no restrictions of underground services. Qingxi Li had a clear run. A million trees later, his task was complete. Dawn redwoods eventually reach 40m height, so this colossal

landmark will continue to astonish visitors for hundreds of years to come.

Weddle's current work for Pizhou involves road and river corridor ecological planning, to create a green network for the new city. Part of the green infrastructure strategy is to protect, manage and develop the historic landmark that is the dawn redwood avenue.



Map of China showing Pizhou.