

Endangered: *Magnolia wilsonii*

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My choice for a favorite tree seems to change almost weekly, sometimes even daily. But one has currently held my impatient mind longer than normal. It is a tree with so many admirable qualities that I think everyone should try to find a place for it in their gardens. Though widely available in the nursery trade, it is also a tree that may soon be extinct in the wild. Imagine a tree that blooms after the danger of frosts, has pristine white 12-centimeter-wide flowers with brilliant crimson-red stamens that hang like bright lanterns, has an elegant rich fragrance, doesn't get too big, and is named after the indefatigable plant hunter, E. H. Wilson. Of course, I'm thinking of *Magnolia wilsonii* (Finet & Gagnep.) Rehder, an endangered tree native to China occurring in western Sichuan, northern Yunnan and western Guizhou. Habitat loss and fragmentation have caused its numbers in the wild to decrease to a dangerously low level. It is found in mixed forests between 1900 and 3300 meters elevation. Much of its habitat, once one of the richest temperate forests on earth, has been reduced to small areas too steep to clear for agriculture. Another threat to its survival in the wild is demand for its bark due to its medicinal qualities. It is frequently used as a substitute for the bark of *Magnolia officinalis*. For centuries in China bark from several magnolia species has been used to clear head and chest congestion and for intestinal relief, while flower buds of many species have been used for sinus congestion.

Magnolia wilsonii is one of a curious group of four magnolias in the section *Oyama*. In fact, recently some botanists have placed them in the newly created genus *Oyama* (Nakai) N.H. Xia & C.Y. Wu., though here at Quarryhill we have no intention of making this change. They are all deciduous, flower as the trees are coming into or in leaf, and have pendant fragrant blossoms. They are indigenous to East Asia, with *Magnolia sieboldii* occurring in Japan, Korea, and China, *Magnolia globosa* occurring in Bhutan, India, Myanmar and southwest China, and *Magnolia sinensis* found only in Sichuan, China. Of these, I have collected seeds and voucher specimens in the wild of *Magnolia sieboldii* and *Magnolia wilsonii*. Although I have searched, I have not yet seen the other two in the wild.

Magnolia wilsonii was one of our targets during an expedition last fall to western and southern Sichuan. Professor Tang Ya of Sichuan University in Chengdu, Sichuan, assisted in the planning and coordination of the expedition, which had funding from the Franklinia Foundation. Corey Barnes, Quarryhill's Nursery Manager, Andy Hill, Curator of the David C. Lam Asian Garden at the University of British Columbia Botanical Gar-

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den, and Joanna Welti, along with Zhang Liyun, a graduate student at Sichuan University, accompanied me during the month-long fieldwork. Our primary goal was to find and collect seeds of plants in the magnolia family, of which there are 20 different species that occur in Sichuan. We did see a few individuals of *Magnolia wilsonii* on Luoji Shan (mountain) in southern Sichuan, but they were all without seed. Unfortunately for us, it was a dreadful seed year, and although we found several different magnolia species, only one tree of *Magnolia sargentiana* had seed. The journey was not a total loss, as we did manage to make over 100 collections that will be important new additions to Quarryhill and UBC Botanical Garden. We speculated that the poor seed year was due to stormy weather during flowering and a longer, more severe summer rainy season than usual.

It is also possible that some of the trees may have had their flower buds stripped and sold for medicine. During the expedition, we saw several large trays filled with magnolia flower buds for sale on Emei Shan. I have seen this many times over the years in China. In the fall of 1996, while in northern Guizhou with Tony Kirkham, Head of the Arboretum at the Royal Botanic Gardens, Kew, Mark Flanagan, Keeper of the Gardens at Windsor Great Park, and Charles Howick, Director of the Howick Arboretum, we came upon a very large old *Magnolia sprengeri*. While walking around the tree looking for seeds, before making the effort to climb, a villager approached us and asked what we were doing. After we told him, he said that we wouldn't find any seed as they had removed all the flowers while in bud and sold them for medicine.

The first time that I collected seed of *Magnolia wilsonii* was in the fall of 1992 on Niba Shan in western Sichuan. Hans Fliegner and Martin Stanforth from Kew, and Charles Howick and I were on our way to Muli in southwestern Sichuan. Our guide from the Chengdu Institute of Biology of the Chinese Academy of Sciences had told us that it occurred on Niba Shan, so we stopped on our way to take a look. We hunted for hours through dense forest and finally came upon one good-sized 10-meter high tree. After a thorough search of the tree, we found only one fruit with six good seeds. We divided these three ways and found out later that Kew successfully germinated one seed, Howick one, and Quarryhill only one. I went over the same mountain two years later in the fall of 1994, this time with Charles Erskine and Hans Fliegner from Kew, and Charles Howick. We were all shocked to see the area where we had found the magnolia two years previously completely denuded and now planted with a monoculture of spruce.

We did manage to make a seed collection of *Magnolia wilsonii* later during that expedition in 1994. On our return to Chengdu, we decided to stop at Luoji Shan. Unlike my recent visit there, this time we were on the other side of the picturesque range. This was long before Luoji Shan was made a Nature Reserve. Now a cable car and stone steps take thousands of tourists up into this botanical paradise. I first visited Luoji Shan with Charles Howick in 1990 and hadn't noticed any magnolias then. On that first visit we had started from a small Yi village and climbed for days, with porters and horses carrying our gear over the rugged steep mountains. However, on our second visit, despite torrential rain, we spotted an area just above the village that we had previously overlooked. Here, there were several *Magnolia wilsonii*, though few had seed. Our frustration with the lack of seeds was further exacerbated by their failure afterward to germinate.

That one seed that germinated from our 1992 expedition is now a healthy three-meter-high tree at Quarryhill, as wide as it is tall. Growing in Sonoma Valley in our rocky acidic soil, in mostly sun with a little light shade from a *Toona sinensis*, it flowers heavily and consistently year after year. I frequently bring visitors to see it, not just for its beauty and delightful fragrance, but, more importantly, to tell the story of how it is disappearing from the wild. When Wilson first saw this magnolia in 1904, he noted that it was quite common. Now listed as endangered in BGCI's Red List of the Magnoliaceae, this species, like so many others in the magnolia family, has a doubtful future. And like many other curious examples of plants that we adore and love to grow, *Magnolia wilsonii* might survive longer in cultivation than in the wild.

References

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