

---

## Integrated conservation for *Magnolia zenii*, an endemic, rare and endangered tree species in China

X.L. Chu<sup>\*</sup>, Y.K. Wei, and W. Yan

Shanghai Botanical Garden, Shanghai, China

\*Corresponding author email: xiulic0207@163.com

Keywords: Endangered, integrated conservation, *Magnolia zenii*, rare

*Magnolia zenii*, a deciduous tree known for its elegant and beautiful flowers, belongs to the genus *Magnolia* in the family Magnoliaceae. This tree species is known to have straight trunks and bloom in early spring, with flowers appearing before leaves. Apart from its high ornamental values, the species also holds significant cultural, ecological, and economic values. The distribution of *M. zenii* is restricted to the Baohua Mountain in Jurong City, Jiangsu Province, China. Due to the unfavorable site conditions for seed germination and other factors, the forest undergrowth where *M. zenii* grows is sparse. Early reports suggested only 18 adults were recorded in the wild, resulting in a Critically Endangered (CR) conservation status being accorded according to the IUCN assessments. Botanic Gardens Conservation International (BGCI) has provided funding from 2021 to 2024 to conserve this tree species comprehensively, and significant progress has been made. Further surveys resulted in an increase in known wild individuals to 116. Notable differences in flower characteristics prompted us to conduct pollen electron microscopy scanning analysis from various individuals. The seed germination rate has risen to 65%, with the embryo germination rate remaining at 85% after ultra-low temperature storage, yielding over 10,000 seedlings and grafted seedlings. Approximately 2,500 participants were engaged during the *Rare and Endangered Species Exhibitions*, in which 170 teachers and pupils were involved in our science awareness popularization classroom. In addition, 174 individuals received training in protection techniques. Ongoing efforts include population augmentation and reintroduction for *in-situ* conservation and population and cultivation network construction for *ex-situ* conservation.