

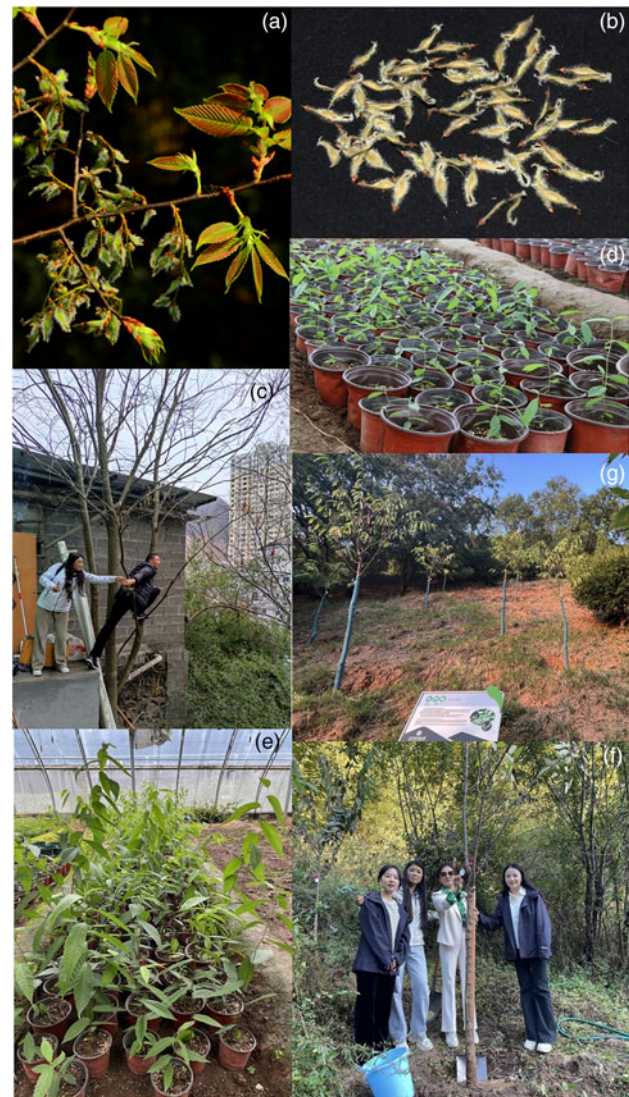
Conservation News

Saving *Ulmus elongata*: an Endangered tree endemic to China


Ulmus elongata is a deciduous tree in the family Ulmaceae. It is classified as a second-level National Key Protected Wild Plant and is one of the 120 species of Plant Species with Extremely Small Populations in China. The species is endemic to China, growing in broadleaf forests at 700–900 m, in valleys, along stream banks or on lower slopes. Because of its fragmented population, the harsh growing environment and small winged seeds that are wind dispersed and eaten by birds, seed collection can be difficult. Furthermore, moth larvae feed on its young leaves, leading to significant consumption of seedlings after germination, hindering survival. The combination of these factors contributes to the poor reproductive capability of *U. elongata* in the wild, with < 100 mature trees remaining. It is categorized as Endangered on the China Biodiversity Red List, necessitating artificial propagation efforts to increase the number of seedlings and improve its conservation status.

During March 2022–November 2024 we successfully bred > 2,000 seedlings, developing a seed propagation and seedling cultivation plan that includes the optimal timings for harvesting and sowing. We collected mature fruits from Zhenping County and Ankang City, Shaanxi Province, and conducted sowing experiments in the seedling nursery of the Qinling National Botanical Garden. The successfully propagated seedlings are preserved in semi-natural habitats for reintroduction into the wild.

We determined the optimal harvesting period for *U. elongata* seeds to be early April, and timely sowing after collection is needed to ensure seed vitality. We selected well-drained, loose and fertile sandy loam as the seedbed, maintaining a temperature of 18–25 °C. Germination occurs c. 15 days after sowing, and when the average plant height reaches c. 150 cm, the seedlings can be transplanted. During 2022–2024 we introduced 400 seedlings to four locations with conditions similar to the species' natural range (an orchard at Bapi Mountain in Zhenping County, near the former primary school in Hongxing Village, Niutoudian Town, the Qinling National Botanical Garden, and Zhashui County in Shangluo City, Shaanxi Province), establishing new populations of *U. elongata*. Monitoring of seedling survival is ongoing.



Ulmus elongata: (a) inflorescence, (b) seeds, (c) seed collection in its natural habitat, (d) germinated seedlings, (e) planting stock, (f) planting activities, and (g) following reintroduction. Photos: Yali Li.

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