

# Using a Global List of Exceptional Plant Species to Inform Strategic Conservation Action

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## Abstract

As plants face increasing threats globally, there is urgent need for targeted conservation action. These actions are most impactful when they consider many facets of each species' circumstances – e.g., threats, available resources, stakeholder needs, species traits. One important trait that was not holistically defined until recently, is a species' ability to be collected, stored long-term in a conventional seed bank, and grown again from seed. Those species that pose challenges to one or more steps in this standard seed banking process (known as exceptional species) require additional conservation planning and attention. As an essential building block toward successful conservation planning for exceptional species, we created a global working Exceptional Status List, which compiles targeted literature searches, expert input, and an analysis of Kew's Seed Information Database to designate over 23,000 seed-plant species as exceptional (775), non-exceptional (3,276), probably non-exceptional (1,876), or as having insufficient data (17,603). Our analysis indicates that only 20% of plant genera have had even one species assessed for exceptionality. And, although 688 exceptional species were in *ex situ* collections, most were represented by only 1-4 collections, primarily living plant collections, while very few species were in cryobanks or tissue culture. We estimate that this working list represents c. 2% of the total number of predicted exceptional species and provide it as a community conservation tool for further development. As at least one-quarter of exceptional species listed are threatened, there is an urgent need to collaboratively work toward addressing the conservation challenge of exceptional plants.