

## Extinction Risk and Threats to Plants

### Systematic Review

Our systematic review (in preparation) is based on a literature search undertaken in searching Web of Science on 12 December 2016 using the following query:

"plant" OR "plants" OR "herb" OR "herbs" OR "herbaceous" OR "forb" OR "forbs" OR "tree" OR "trees" OR "shrub" OR "shrubs" OR "flora" OR "vegetation" OR "botany" OR "botanical" OR "compositae" OR "asteraceae" OR "daisy" OR "daisies" OR "orchidaceae" OR "orchid" OR "orchids" OR "leguminosae" OR "fabaceae" OR "pea" OR "bean" OR "beans" OR "legume" OR "legumes" OR "rubiaceae" OR "coffee" OR "bedstraw" OR "gramineae" OR "poaceae" OR "grass" OR "grasses" OR "labiatae" OR "lamiaceae" OR "mint" OR "euphorbiaceae" OR "spurge" OR "spurges" OR "apocynaceae" OR "Periwinkle" OR "periwinkles" OR "milkweed" OR "milkweeds" OR "myrtaceae" OR "myrtle" OR "myrtles" OR "cyperaceae" OR "sedge" OR "sedges"

AND

"trait" OR "traits" OR "life history" OR "life-history" OR "correlate" OR "correlates" OR "correlated" OR "attribute" OR "attributes" OR "determinants" OR "determinant"

AND

"Extinct" OR "extinction" OR "extinctions" OR "threat" OR "threats" OR "threatened" OR "endangered" OR "vulnerable" OR "vulnerability" OR "narrow endemic" OR "narrow endemics" OR "narrow endemism" OR "narrow endemisms" OR "rare" OR "rarity" OR "red list" OR "red listing"

### Box 1: Trait-threat interactions

Traits and threats considered in our preliminary analysis of 204 threatened or near-threatened monocot species:

#### Plant traits considered

- Life Form
- Storage organ
- Breeding System
- Mode of Pollen Dispersal
- Fruit Type
- Endosperm
- Woodiness
- Seasonality
- Number of Seeds Per Fruit
- Floral Symmetry

Threats considered ([http://s3.amazonaws.com/iucnredlist-newcms/staging/public/attachments/3127/dec\\_2012\\_guidance\\_threats\\_classification\\_scheme.pdf](http://s3.amazonaws.com/iucnredlist-newcms/staging/public/attachments/3127/dec_2012_guidance_threats_classification_scheme.pdf))

- Residential & Commercial Development
- Agriculture & Aquaculture
- Energy Production & Mining
- Transportation & Service Corridors
- Biological Resource Use
- Human Intrusions & Disturbance
- Natural System Modifications
- Invasive & Other Problematic Species, Genes & Diseases
- Pollution
- Geological Events
- Climate Change & Severe Weather
- Other Options

Box 2: Under-assessed groups and areas: Orchids and New Guinea

Modelled richness follows Vollerling *et al.* (2016) *Journal of Biogeography* 43: 204-214; data plotted is available from the Pangaea database:

<https://doi.pangaea.de/10.1594/PANGAEA.847701>.

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