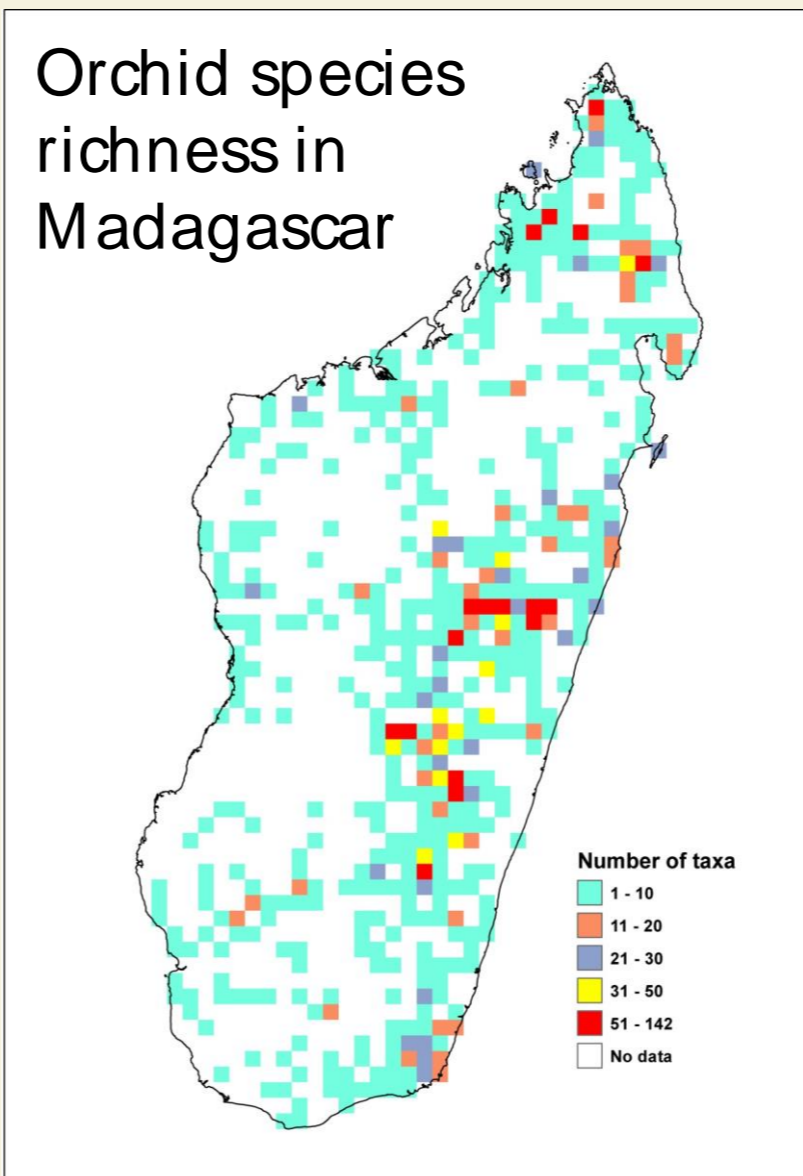


Madagascar is a hotspot for orchid diversity. Orchids constitute **8% of the island's total flora**. Kew and KMCC's work shows that Madagascar is home to approximately 960 orchid species, and some 69 subspecies and varieties. About 86% of orchid taxa are endemic, and our work suggests that approximately **70% are threatened** with extinction, according to IUCN Red List criteria, mostly as a result of habitat destruction.



Research and conservation activities

❖ Data collection

KMCC maintain a rich database of orchid specimen data for Madagascar, including data from expeditions

❖ Red List assessment

All Madagascar orchids are being assessed using IUCN Red List criteria, by KMCC in conjunction with the IUCN Madagascar Specialist Group (GSPM).

❖ Population studies

Monitoring programmes are being piloted for two critically endangered orchid species (*Grammangis spectabilis* and *Angraecum longicalcar*)

❖ Mycorrhizal relationships

Research is being carried out into the specific mycorrhizal associations of epiphytic, lithophytic and terrestrial orchids from Itremo NPA with the Kew Conservation Biotechnology Unit

❖ Collections for PBZT and Kew

Herbarium specimens collected on fieldwork enrich the Parc Botanique et Zoologique de Tsimbazaza (PBZT) and Kew Herbaria. Living collections aid the identification of non-flowering orchids



Grammangis spectabilis growing on a tree *in situ*



Grammangis spectabilis plants raised *ex situ* in the nursery at PBZT



Flowers, hand-pollinated pods, and reintroduced *Angraecum longicalcar* plants in the wild

Future plans and targets

IUCN Red List assessments of all orchid species will enable the prioritisation of species and sites for conservation action

❖ In situ conservation

Conservation action plans include the reintroduction of 150 artificially propagated plants of *Angraecum longicalcar* into their natural site in Ambatofinandrahana

❖ Ex situ conservation

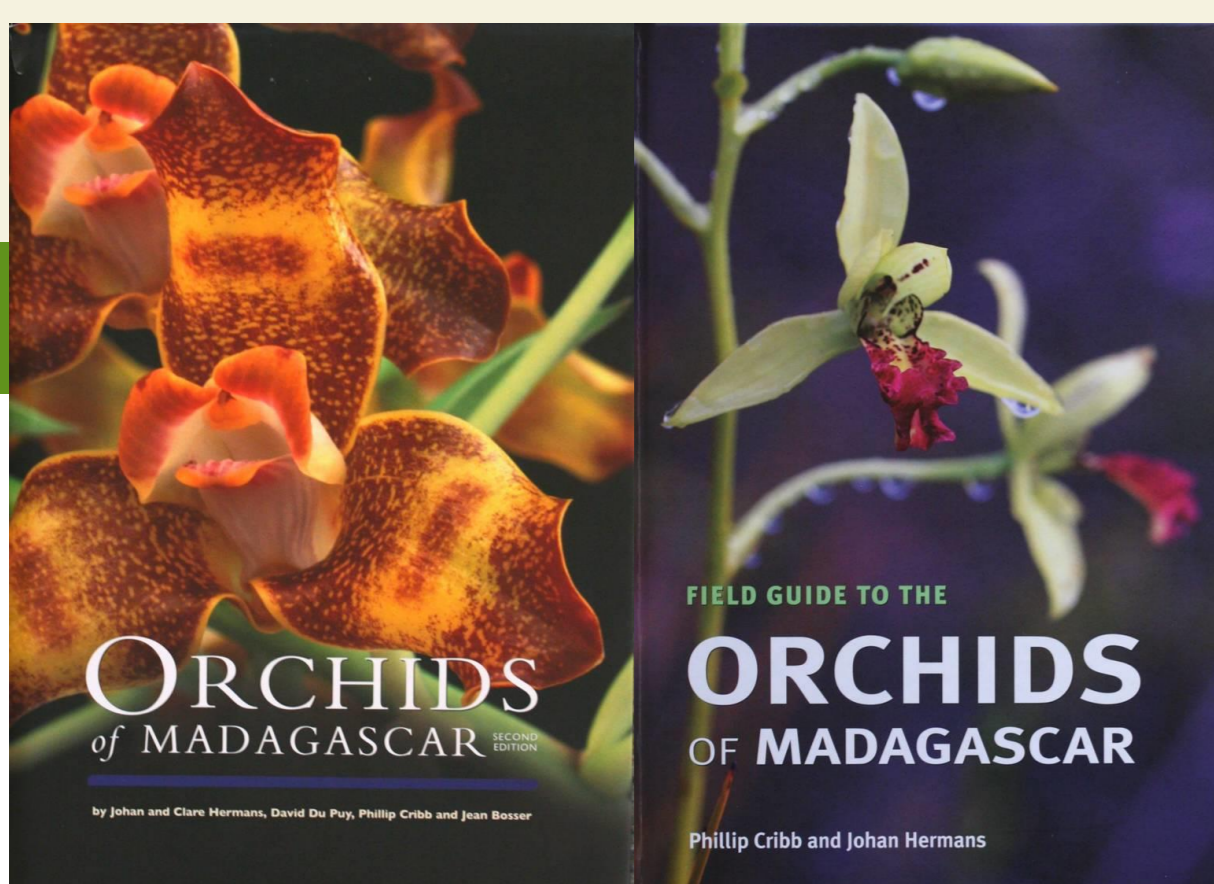
Seeds from 500 orchid species will be collected by KMCC for the Millennium Seed Bank Partnership by 2020. Living collections of plants enable *ex situ* conservation of species and provide seed for future reintroduction work

❖ DNA and tissue bank

Silica dried orchid material will be systematically collected for future research on population genetics, barcoding and identification, and evolutionary studies

❖ Conservation community

KMCC works closely with other institutions, Madagascar National Parks, and local schools to encourage public engagement and participation in research and conservation of Madagascan orchids



Kew's systematic research on Madagascan orchids

RBG Kew has been studying the orchids of Madagascar for nearly 20 years, and have published two major books: an annotated checklist of the Orchids of Madagascar and a Field Guide to the Orchids of Madagascar