

ORCHID CONSERVATION NEWS

The Newsletter of the Orchid Specialist Group of the IUCN Species Survival Commission

Issue 2

September 2020

CONSERVATION – PROGRESS!

Editorial

There has been growing concern with climate change and how this might impact orchid conservation initiatives. There have been dramatic shifts in local climates, with torrential rains and floods, severe droughts and raging bush fires. While we remain very concerned about the consequences of global warming, we now are facing an ongoing virus pandemic and the immediate to future consequences thereof. Despite a myriad of challenges that the pandemic has presented around the world, from work furloughs to quarantine, lockdowns and travel restrictions, conservation activities have continued albeit with adjustments to address the human health challenge. We can report progress, notably with Red List assessments, 88 in all, and with grassroots initiatives such as a Don't Mow Let it Grow campaign. Take heart with what we can achieve in spite of hurdles put before us.

Marilyn H.S. Light, Editor

Assessing Extinction Risk for Malagasy Orchids

IUCN Red listing workshop in the age of Covid-19

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The *Groupe des Spécialistes des Plantes de Madagascar* (GSPM) convened for a 3-day workshop (June 30 to July 2, 2020) in Antananarivo to validate IUCN Red List assessments prepared as part of a

project conducted by the Missouri Botanical Garden (MBG) with the French *Institut de Recherche pour le Développement* (IRD), and funded by the National Geographic Society (Recovery of Species on the Brink of Extinction) that aims to produce up-to-date assessments for Malagasy orchids.

<https://www.researchgate.net/project/Long-term-Conservation-of-the-most-threatened-MALagasy-Orchids-COMALO>

Due to global disruptions resulting from the COVID-19 outbreak, this validation workshop was in part virtual (see Illustrations 1,2), bringing together 14 orchid experts confined to five countries (Madagascar, Cameroon, Belgium, France and USA) on three continents. Assessments were conducted and validated by experts from MBG, the Royal Botanic Gardens, Kew, the New York Botanical Garden, the University of Antananarivo, the *Parc Botanique et Zoologique de Tsimbazaza* (PBZT), and IRD. Some 82% of the 39 orchid species assessed were found to be threatened (20 Endangered and 12 Vulnerable). The main threats to orchid habitats in Madagascar are shifting agriculture (slash-and-burn farming, locally known as *tavy*), small scale logging and wood harvesting, and mining activities. We anticipate that these assessments will be published officially on the IUCN Red List of Threatened Species by the end of 2020.

Orchids on the IUCN Global Red List

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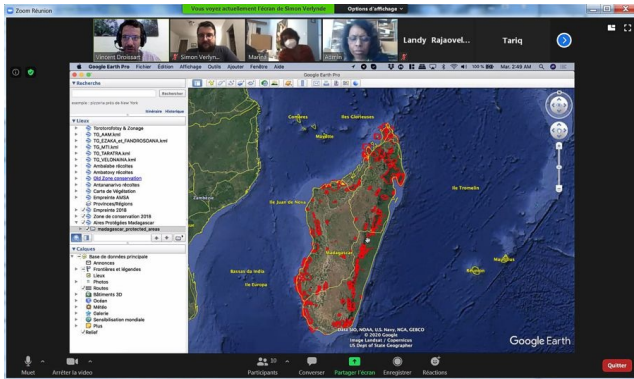


Illustration 1: Virtual workshop organized by MBG with the GSPM on IUCN Red List assessments of Malagasy orchids, June 2020.

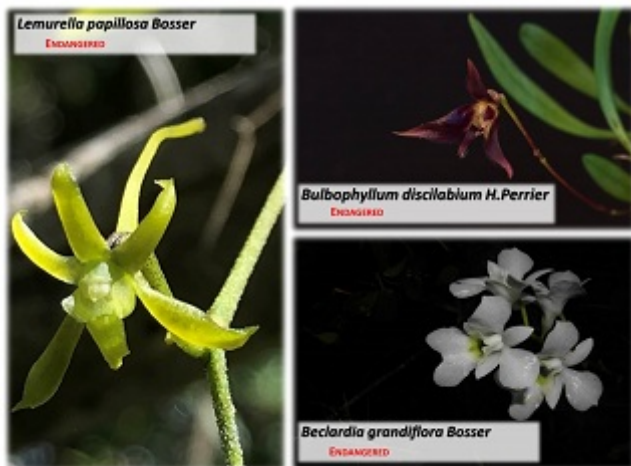


Illustration 2: Three Endangered Malagasy orchid species assessed during the “virtual” workshop.

Photo credits: *Lemurella papillosa* and *Bulbophyllum discilabium*: Simon Verlynde (New York Botanical Garden); *Beclardia grandiflora*: Patrice Antilahimena.

Orchidaceae, with >27,000 species, are one of the largest plant families, and this presents a challenge in assessing levels of threat – with so many species to assess, where should we begin? This challenge was reflected in the slow rate of assessments in the early years of the 21st century, but since 2013 there has been a steady increase in the number of species on the Global Red List (Fig. 1). It recently became possible for assessments to be submitted in French or Spanish, and the latest update includes the first orchid assessments to be published in a language other than English: three *Aa* species and *Myrosmodes rostratum* (in Spanish).

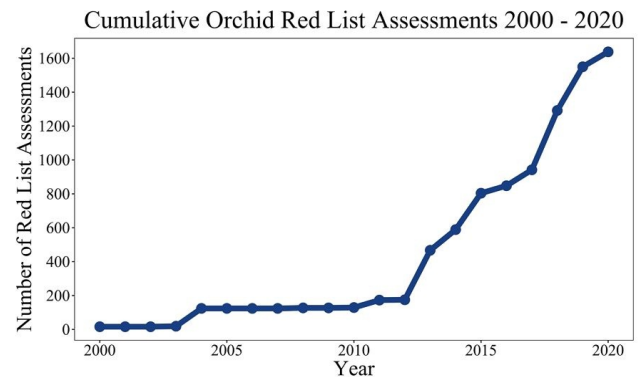


Figure 1. Cumulative totals of orchid assessments on the IUCN Red List, 2000 to 2020.

The latest update of the IUCN Global Red List (IUCN, 2020), released in July 2020, included 88 new assessments for orchids, and this brings the total number of orchid species that have been assessed to 1641 (c. 6% of orchids). Five of these are Extinct and 747 are threatened: 197 Critically Endangered (CR), 355 Endangered (EN) and 195 Vulnerable (VU). Eighty-seven and 575 species have been assessed as Near Threatened (NT) and Least Concern (LC), respectively. Accounting for the 227 Data Deficient (DD) species, for

which threat status is unknown, the percentage of species threatened ranges from 46% (lower bound) to 60% (upper bound), with a mid-point of 53% (Fig. 2). For full explanations of these metrics, see IUCN (2016).

In the first decade of the 21st century, the proportion of threatened orchids on the Red List ranged from c. 80 to >90%, but this is largely a result of selecting predominantly high-profile species due to perceived threat. As the number of species assessed has increased, the proportion of threatened species on the Global Red List has gradually decreased to the current levels (Fig. 2), and we expect that as more species are assessed the proportion of threatened species will fall further.

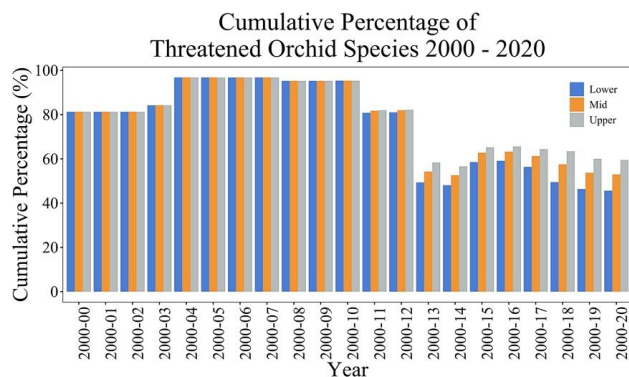


Figure 2. Cumulative proportion of threatened orchid species on the IUCN Red List, 2000 to 2020 (lower bound, mid-point and upper bound values).

Of the 1638 species assessed since 2000, 227 (c. 14%) are considered Data Deficient, due to the appropriate distribution and/or abundance data needed to assess the risk of extinction not being available. Nearly half (104; 46%) of the species currently assessed as DD appeared on the Red List in 2018, of which 48 come from the island of New Guinea, reflecting the paucity of information about some species from the island.

Among the 88 assessments on the latest update are species from Africa, Australasia, Central America, Oceania, SE Asia and South America, and 29 of these are threatened (CR 6, EN 13, VU 10). The major threat identified for the newly assessed species is habitat degradation due to agriculture, forestry and mining, but climate change and illegal or unsustainable harvest are also having an impact on some species.

In addition to assessments conducted by members of the Orchid Specialist Group, some species have been assessed by other regional Specialist Groups and Red List Authorities. For example, 27 of the new assessments are for species from New Caledonia, and these assessments were led by members of the New Caledonia Plant Red List Authority. Some of the newly assessed species are shown in Figures 3 and 4.



Figure 3. New Caledonian orchids *Clematopistephium smilacifolium* (A) and *Dendrobium verruciferum* (B) have both been assessed as LC. Photos: A: Christian Laudereau. B: Jérôme Munzinger.



Figure 4. New Caledonian orchids *Dendrobium vandifolium* (Left), *Eriaxis rigida* (Centre), and *Megastylis montana* (Right), have all been assessed as VU. Photos: Left & Centre: Yohan Pillon. Right: Christian Laudereau.

In recent years, the number of orchid species on the Global Red List has increased dramatically, but with only c. 6% of species so far having been assessed, there is still much work to be done. To facilitate this, the Orchid Specialist Group is in the process of appointing

additional Red List Authorities, and we are working with the IUCN Red List Office to investigate the possibility of moving some regional and national assessments to the Global List. We also acknowledge the valuable contributions of some of the other groups, including the Madagascar Plant Specialist Group and the New Caledonia Red List Authority. Finally, thanks to Hassan Rankou, Steve Bachman and Eimear Nic Lughadha for their input and Leif Bersweden for help with producing the figures.

References

IUCN. 2016. Guideline for appropriate uses of IUCN Red List Data. Incorporating, as Annexes, the 1) Guidelines for reporting on the proportion threatened (ver. 1.1); 2) Guidelines on scientific collecting of threatened species (ver. 1.0); and 3) Guidelines for appropriate use of the IUCN Red List by business (ver. 1.0). Version 3.0. Adopted by the IUCN Red List Committee. Cambridge: IUCN. Available at: <https://www.iucnredlist.org/resources/guidelines-for-appropriate-uses-of-red-list-data>.

IUCN. 2020. *The IUCN Red List of threatened species*. Available at: <https://www.iucnredlist.org/>. es:

Don't Mow, Let it Grow

A 3-year pilot project 'Don't Mow, Let it Grow' managed by Causeway Coast and Glens Borough Council, Northern Ireland, brought abundant wildflowers to roadside verges and these blooms attracted pollinators. Delayed mowing let plants bloom, set seed, and reproduce before being cut down. Appearing within these wildflower communities were some terrestrial orchids such as *Ophrys apifera*, protected under the 1985 Wildlife (NI) Order in Northern Ireland, and locally rare *Anacamptis morio* in Co. Laois, Ireland.

Did the national lockdown have unexpected benefits for biodiversity? Biodiversity Ireland pointed out that "motorway verges [were] covered in Dandelions and Cowslips on a recent trip to Newbridge." Plantlife, a conservation organisation in the UK, also highlighted this unintended positive consequence of the Covid19 crisis for biodiversity. Great ideas tend to propagate!

<https://plantlife.love-wildflowers.org.uk/roadvergecam-paign/inspiring-stories>

<http://www.irishnews.com/news/2017/06/24/news/bee-orchid-on-roadside-verge-creates-a-buzz-1065620/>

<https://dontmowletitgrow.com/breaking-news-rare-bee-orchid-discovered/>

<https://www.biodiversityireland.ie/does-the-lockdown-bring-any-silver-linings/>

Food for Thought

Danaher, M.W., Ward, C., Zettler, L.W. and C.V. Covell (2019). Pollinia removal and suspected pollination of the endangered Ghost Orchid, *Dendrophylax lindenii* (Orchidaceae) by various hawk moths (Lepidoptera: Sphingidae): another mystery dispelled. *Florida Entomologist* 102 (4): 671–683.

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Kramer, R.D., Ishii, H.R., Carter, K.R., Miyazaki, Y., Cavaleri, M.A., Araki, M.G., Azuma, W.A., Inoue, Y., and C. Hara (2020). Predicting effects of climate change on productivity and persistence of forest trees. *Ecological Research* 35: 562–574.

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Phillips, R.D., and M. Batley (2020). Evidence for a food-deceptive pollination system using *Hylaeus* bees in *Caladenia hildae* (Orchidaceae). *Australian Journal of Botany* 68(2) 146–152. <https://doi.org/10.1071/BT20002>

Mark your Calendar

23th World Orchid Conference, Taichung, Taiwan

Postponed <https://www.woc23.com/>

MONOCOTS – 7th International Conference on Comparative Biology of Monocotyledons.

San José, Costa Rica, March 6–10, 2023

**24th World Orchid Conference, Perth, Australia,
September 3–11, 2023**

<https://horticulturalcouncil.com.au/event/24th-world-orchid-conference/>

IOCC VIII, Perth, Australia, September 2023

8th IOCC to be held in conjunction with the 24thWOC
Details to follow.

Changes to contact information?

To maintain effective communication, we need to know of any changes in contact information.

Please inform the OSG Chair, Mike Fay.

[\(M.Fay@kew.org\)](mailto:M.Fay@kew.org)

Call for conservation news

Members are invited to provide news of their recent conservation activities for publication in the OSG Conservation News.

Please submit material in Microsoft Word. Illustrations should be submitted as separate jpg files. If applicable, please include suggested captions and photographic credits.

Send news to Marilyn Light, Editor,
[\(milight@distributed.net\)](mailto:milight@distributed.net)