



Food and Agriculture
Organization of the
United Nations

Launch of the **International Network on Soil Biodiversity**

in the framework of the
Global Soil Biodiversity Observatory

3rd December 2021 | 🕒 14:00 CET
Online meeting



Global Fungal Red List Initiative

Gregory M. Mueller

Chicago Botanic Garden

IUCN SSC Fungal Conservation Committee





IUCN-SSC FUNGAL IUCN-SSC FUNGAL SPECIALIST GROUPS

1. Chytrid, Zygomycete, Downy Mildew, Slime Mould
2. Cup-Fungus, Truffle and Ally
3. Lichen
4. Mushroom, Bracket and Puffball
5. Rust and Smut

Get in Touch



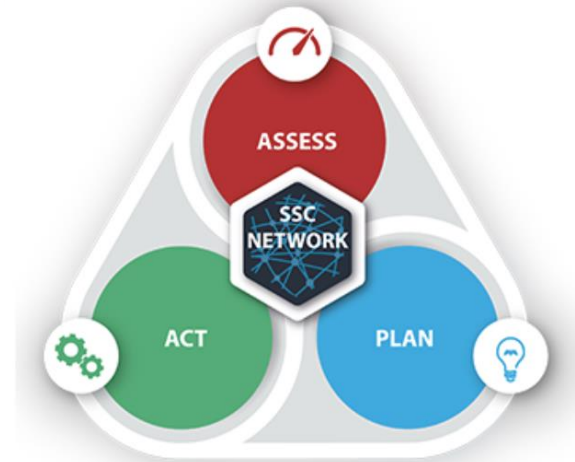
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Initiative Goal

Work to have the importance of fungi recognized by the public, conservation community, land managers, and policy makers to ensure that fungi are included in conservation actions and funding so that they are **conserved**.

IUCN SSC Conservation Cycle:
Assess, Plan, Act



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Rational For Assessing

Determining which species are thriving and which are rare or declining is crucial for targeting conservation action towards species in greatest need.

Many funding and conservation organizations use the IUCN Red List to prioritize action.

The conservation status of the vast majority of fungal species has not been assessed.

This hinders inclusion of fungi in conservation discussions, access to funding programs, policy decisions, and conservation action.

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Progress Is Being Made

- 2013 IUCN Red List included 3 fungi – 2 lichenized ascomycetes and one mushroom
- There are now 545 species on the Red List
- Efforts will continue to add to this number



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FUNGI - AGARICOMYCETES

GLOBAL

Hygrocybe noelkelani

↓ Decreasing

<EN>



FUNGI - AGARICOMYCETES

GLOBAL

Lactarius haugiae

↓ Decreasing

<VU>



FUNGI - AGARICOMYCETES

GLOBAL

Galapagos Spiny Gladiator Lichen

Acantholichen galapagoensis

↓ Decreasing

<VU>



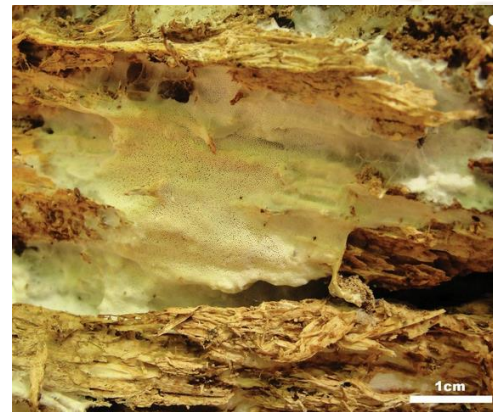
FUNGI - AGARICOMYCETES

GLOBAL

Aleurodiscus bernicchiaie

↓ Decreasing

<VU>



FUNGI - AGARICOMYCETES

GLOBAL

Wrightoporia araucariae

↓ Decreasing

<CR>



FUNGI - PEZIZOMYCETES

GLOBAL

Rickiella edulis

↓ Decreasing

<EN>



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Advances that have led to this increase in assessments





- Global diversity surveys, advances in knowledge of fungal population biology, and new survey tools including environmental sampling
- Conservation community increasingly focusing on fungal conservation issues.
- New computer-based tools and initiatives are generating new information and engaging more people in the effort.






Citizen Science Initiatives

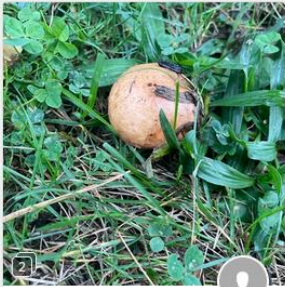
iNaturalist  Explore Community More ▾

Observations

 Fungi Including Lichens    Filters


The World **4,967,734** OBSERVATIONS 16,118 SPECIES 45,356 IDENTIFIERS 432,970 OBSERVERS

 Map  Grid  List




Dotted-stalked Suillus
(*Suillus granulatus*)

11d




Trametes cubensis

7mo




Genus Paralepista

6h




Hygrocybe Subsect. Co...
(Subsection Coccineae)

4d




Stonewall Rim Lichen
(*Protoparmeliopsis muralis*)

8h




Bear's Head Tooth
(*Hericium americanum*)

20h



Fungi Including Lichens
(Kingdom Fungi)

4h



Common Lichens
(Class Lecanoromycetes)

6h

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Citizen Science Initiatives (cont.)

Fungi of Great Britain and Ireland

SEARCH

All

Taxonomy

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ALL FUNGI

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LOST & FOUND FUNGI

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The Lost & Found Fungi Project

View




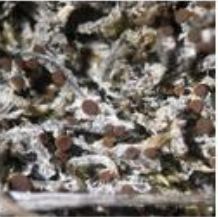
Revisions




We know that there are many species of fungi in the UK (around 15000 at the last count), but for many we have little idea about where they are or even whether they have become extinct. This project will focus on fungi that have been rarely recorded from our region, carrying out targeted surveys to establish whether they are still there, and if so whether they are genuinely rare or merely under-reported. These abandoned species are currently lost, and hopefully many will be found as a result of project actions. Their conservation will then be promoted in partnership with local specialists and stakeholder groups. The project will run for five years from 1 July 2014 and will be managed by the Royal Botanic Gardens, Kew, funded by a very generous donation from the Esmée Fairbairn Foundation.

For more information on the project, its background, partners and approach, follow [this link](#). If you want to get involved, or have any queries about the project, the target species, or how to look for them, please email Brian Douglas at b.douglas@kew.org. You can also follow us on [Facebook](#) and [Twitter](#).

Project partners		Project reports	TOP100 fungi	Recording
				
		Latest: May-June 2016	Top 100 fungi list	
		Report archive	Data sheets	Recording spreadsheet download

Summary data for Top 100 species - click on the images

			
Non-lichenized Ascomycota	Larger Basidiomycota	Rusts, smuts, and allies	Lichens and lichenicolous fungi


Species to look out for this month	Summary information by Vice County	Online Mapping and Records	Species by broad habitat categories
			Coastal Grassland and meadows Upland to montane Parkland to woodland Wet heath to wetlands





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Plan and ACT – A Case Study



Names - common, scientific, regions etc...  [Advanced](#) [About](#) [Assessment](#)



Loyo


Butyriboletus loyo

CITATION

Furci, G. 2019. *Butyriboletus loyo*. *The IUCN Red List of Threatened Species* 2019: e.T75099337A75099440. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T75099337A75099440.en>. Downloaded on 30 August 2021.

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	< ENDANGERED >	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

POPULATION TREND

 Decreasing


NUMBER OF MATURE INDIVIDUALS

Population in detail

HABITAT AND ECOLOGY

Forest

GEOGRAPHIC RANGE



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Butyriboletus loyo
"Loyo"

Fungi Foundation
Giuliana Furci
Daniella Torres

INFOR (Chilean National
Forestry Institution)

Universidad Austral

Members of the
Mapuche communities in
**La Región de Los Rios,
in Panguipulli**

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Communication and Advocacy



Diversity

Recognition of the discipline of conservation mycology

Tom W. May✉, Jerry A. Cooper, Anders Dahlberg, Giuliana Furci, David W. Minter, Gregory M. Mueller, Alison Pouliot, Zhuliang Yang

First published: 28 September 2018 | <https://doi.org/10.1111/cobi.13228> | Cited by: 1

Article impact statement: : Conservation mycology is a newly introduced discipline relevant to conservation biologists, mycologists, ecologists, and conservation policy.



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Conservation Mycology

- Facilitates framing research questions
- Focuses on associations of fungi with other biota in addition to 'single species' approach to conservation
- Recognizes that practices developed for other organisms in ecosystem management may not be optimal for fungi
- Fosters two-way communication between Conservation Mycology researchers and practitioners



Communicate and Advocate



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Re:wild and IUCN SSC become first global organizations to call for the recognition of fungi as one of three kingdoms of life critical to protecting and restoring Earth

Tue, 03 Aug 2021

Environmental groups and the Chilean Ministry of Environment join the Fungi Foundation in committing to promote inclusive "fauna, flora and funga" language and ensure that fungi— which are critical to all life on Earth—are integrated into conservation strategies



- Post2020 Biodiversity Framework (CBD)
- Documents agreed at COP 26 Climate Change Summit (UN)
- Global Species Action Plan (IUCN)



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Fungal Red List Initiative and NETSOB

- Focus on species in need of conservation
- IUCN Species Survival Commission
- Community of systematists
- Capacity building and engagement of global conservation network
- Emphasis macrofungi fosters communication & engagement with public
- Interest by public facilitates citizen science initiatives



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