IUCN SSC Species Survival Commission

# Species

ISSUE 65

# 2024-2025 Report of the IUCN Species Survival Commission and Secretariat

Stand-alone report
IUCN SSC Fungal Conservation Committee

## The IUCN Species Survival Commission (SSC)

The IUCN Species Survival Commission (SSC) is a science-based network of thousands of volunteer experts from almost every country of the world, all working together toward achieving the vision of "a just world that values and conserves nature through positive action to both prevent the loss and aid recovery of the diversity of life on earth."

Members of SSC belong to one or more of near 200 Specialist Groups, Red List Authorities, Action Partnerships, Task Forces, and Conservation Committees that make up the Network, each focusing on a taxonomic group (plants, fungi, mammals, birds, reptiles, amphibians, fishes, and invertebrates), national species, or a disciplinary issue, such as sustainable use and livelihoods, translocation of species, wildlife health, climate change, and conservation planning.

Framed by the Species Conservation Cycle, SSC's major role is to provide information to IUCN on biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods. This information is fed into the IUCN Red List of Threatened Species.

### 2021-2025 Species Strategic Plan

The IUCN Species Strategic Plan encompasses the joint work of the IUCN Species Survival Commission and a number of partnerships to achieve more than 2,700 targets proposed by the Network during the 2021-2025 quadrennium.

To accomplish those targets, the Species Conservation Cycle was established, which is the conceptual framework for the Network activities. The Species Conservation Cycle's main purpose is to guide efforts for valuing and conserving biodiversity through three essential components that are linked to each other:

**ASSESS**: Understand and inform the world about the status and trends of biodiversity.

**PLAN**: Develop collaborative, inclusive and science-based conservation strategies, plans and policies.

**ACT**: Convene and mobilise conservation actions to improve the status of biodiversity.


Their implementation requires two transversal components:

**NETWORK**: Enhance and support our immediate network and alliances to achieve our biodiversity targets.

**COMMUNICATE**: Drive strategic and targeted communications to enhance our conservation impact.

### SSC Species Report

Annual progress in the implementation of the 2021-2025 Species Strategic Plan is documented in the *SSC Species Report*, which consists of a comprehensive description and analysis of the activities and results generated by the members of the SSC Network and Centers for Species Survival (CSS) each year. Each SSC and CSS group contributes to this document by providing a yearly summarised description of their achievements, which is presented in standalone reports.

## Structure of the IUCN SSC and CSS Stand-alone Reports

Stand-alone reports summarize the activities conducted and results generated by each group member of the SSC and CSS. Following, is the structure of the stand-alone report and the contents under each session.

**Title of the group**

**Photograph(s) of the Chair/Co-Chairs**

**Group information**
Includes names of Chair/Co-Chairs, Vice-Chairs, Deputy Chairs, Red List Authory Coordinators, Program Officers, Species Survival Directors, and Species Survival Officers, their institutional affiliations, number of members and social networks currently active.

**Logo of the group**

**Mission statement**
Includes the mission of the group.

**Projected impact for the 2021-2025 quadrennium**
Includes the description of the impact on species conservation resulting from the implementation of the targets formulated by the group for the 2021-2025 quadrennium.

**Targets for the 2021-2025 quadrennium**
Includes the targets planned by the SSC or CSS group for the 2021-2025 quadrennium ordered alphabetically by component of the Species Conservation Cycle. Each target is labeled with a numerical code (e.g., T-001, T-012) that identifies it in the SSC DATA database and its status for the reported year is indicated (Not initiated, On track or Achieved).

**Activities and results**
Includes the targets for which activities were conducted and results that were generated during 2024 (full year) and 2025 (first quarter), ordered alphabetically, first by component of the Species Conservation Cycle, and second by Activity Category. Description of activities and results includes the indicator that best describes progress, its associated quantitative or qualitative result, and the narrative description of the activity conducted or result obtained. Each activity or result reported is linked to the Key Species Result to which it is mainly associated (e.g., KSR#1, KSR#5).

**Acknowledgements**
Includes the acknowledgements to funding agencies, partners, and persons who contributed to the progress of the targets of the group.

**Summary of achievements**
Summarises information of the group's strategic plan for the quadrennium and progress achieved implementing targets for all the components of the Species Conservation Cycle during the reported year.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

**Example for the recommended citation:**
Mueller, G, and Furci, G. (2025). 2024-2025 Report of the Fungal Conservation Committee. In: IUCN SSC and Secretariat. *Species: Annual Report of the IUCN Species Survival Commission and Secretariat 2024-2025*. Gland, Switzerland: IUCN. 8 pp.

2024-2025 Report

# IUCN SSC Fungal Conservation Committee

**CHAIR**
**Gregory Mueller**
Chicago Botanic Garden, Glencoe, Illinois, US

**DEPUTY CHAIR**
**Giuliana Furci**
Fungi Foundation, Chile - US

**RED LIST AUTHORITY COORDINATOR**
**Gregory Mueller**
Chicago Botanic Garden, Glencoe, Illinois, US

**NUMBER OF MEMBERS**
17

**SOCIAL MEDIA AND WEBSITES**
X: @IUCNfungi
Website: https://www.iucn-fungi.org

## Mission statement

The Fungal Conservation Committee (FunCC) aims to raise awareness of the importance of fungi and the need to conserve them, enhance coordination among the fungal and the broader conservation communities, and foster action.

## Projected impact 2021–2025

Assess the extinction risk of fungal species to inform conservation planning and action for species in most need.

## Targets 2021–2025

### ASSESS

**T-004** Coordinate and support Fungal Specialist Groups to produce and submit 3,000 global assessments.
Status: On track

**T-010** Support Fungal Specialist Groups to produce 200 national assessments.
Status: On track

**T-011** Work with scientists at Kew, Albuquerque BioPark, or others to refine and modify the artificial intelligence system developed and being utilised for rapidly sorting species into Data Deficient, Least Concern or need for detailed assessment.
Status: On track

**T-012** Compile annotated bibliography of conservation mycology. Put a list of publications together and agree on controlled vocabulary for topic terms.
Status: On track

**T-013** Refine research agenda for conservation mycology.
Status: Not initiated

**T-014** Compile a list of fungi with threat assessments, not just those on the IUCN Red List but for national and regional lists.
Status: Achieved

**T-015** Review new research findings, especially on population genetics and utility of environmental sampling, to update fungal Red List guidelines including more emphasis on microfungi.
Status: Not initiated

### PLAN

**T-017** Work with countries and regions to develop national strategies for conservation of fungi.
Status: On track

**T-018** Investigate and strategise integrating fungi into Multilateral Environmental Agreements and other multinational policies.
Status: On track

**T-019** Produce Assess to Plan species assessments focused on fungi.
Status: Not initiated

### ACT

**T-016** Work with national and regional agencies, landowners/land trusts and corporations that manage land to include fungi in conservation planning.
Status: On track

**T-020** Initiate and/or enhance existing conservation action plans.
Status: Not initiated

**T-021** Enhance *ex situ* and *in situ* conservation and sustainable use initiatives.
Status: On track

**T-022** Produce intervention letters and policy recommendations to address specific needed actions.
Status: On track

### NETWORK

**T-001** Create regional conservation fungal networks/working groups as a partnership among the five Fungal Specialist Groups.
Status: No longer a priority

**T-002** Add additional members to the FunCC as additional thematic needs are identified.
Status: Achieved


*Sticta isidiokunthii*
Photo: Bibiana Moncada

**T-003** Identify potential new Fungal Specialist Groups, either taxonomic, thematic, or geographic, and propose formation if appropriate leadership is available.
Status: On track

**T-007** Continue to build capacity within Fungal Specialist Groups across the Species Conservation Cycle, communication and other issues.
Status: On track

**T-008** Continue building capacity within the mycological community through symposia, short courses and workshops.
Status: Achieved

### COMMUNICATE

**T-005** Develop and implement a communication strategy engaging all members of the FunCC including a logo, website, and social media.
Status: On track

**T-006** Work with fungal NGOs and associations, conservation agencies, etc., on campaigns to highlight the importance of fungi, include fungi when talking about biodiversity – fauna, flora, Funga – and incorporate fungi in conservation initiatives and land management decisions, education initiatives, etc.
Status: On track

**T-009** Raise awareness and importance of conservation initiatives and action within the mycological community through symposia, short courses, and workshops.
Status: On track

## Activities and results 2024-2025

### ASSESS

#### Red List

**T-004 Coordinate and support Fungal Specialist Groups to produce and submit 3,000 global assessments.** (KSR 6)

Number of new global Red List assessments completed: 950

Result description: In addition to assessments undertaken during workshops, 2024 saw the submission of assessments from three initiatives: the first batch of assessments generated by the rapidLC Fungi project done in collaboration with RBG Kew, 100 EDGE species, and the comprehensive assessment of species of *Cantharellus* and *Craterellus*, the first comprehensive assessments of any large genera of fungi. In 2025, draft assessments generated during workshops were reviewed, finalised, and submitted for publication.

**T-010 Support Fungal Specialist Groups to produce 200 national assessments.** (KSR 6)

Number of new national Red List assessments published: 175

Result description: New national Red List initiatives supported by the FunCC included efforts in China, Colombia, Brazil, Greece, and Korea. Additionally, a number of countries, including Poland, Russia, and Sweden either have or are in the process of updating their national fungal Red List. Red List training workshops led by FunCC members for African mycologists and others are planned for 2025. The new Center for Species Survival - Fungi in Dubai is undertaking assessments of regionally important species. Additionally, a citizen science initiative organised by the NGO Fungal Diversity Survey FUNDIS is drafting North American assessments of North American fungi, primarily from western US and Canada.

#### Research activities

**T-011 Work with scientists at Kew, Albuquerque BioPark or others to refine and modify the artificial intelligence system developed and being utilised for rapidly sorting species into Data Deficient, Least Concern or in need for detailed assessment.** (KSR 5)


*Leotia* sp.
Photo: Aida Vasco

Number of research projects completed or supported by SSC members per taxonomic group and region: 4

Result description: The first set of assessments generated through the rapidLC Fungi project were finalised, reviewed, and set for publication in the 2025.1 Red List Update. The project's aim is to accelerate efforts assessing North American macrofungi. A small grant from the Indianapolis Zoo supported work by a team at RBG Kew to modify the rapidLC Plants tool for use with fungi. Testing of the draft assessments generated through the tool documented its accuracy and efficacy. A team lead by the Brazilian Fungal Conservation SG supported by funding through the MBZ is employing AI-based habitat models to accelerate the assessment and conservation of the Brazilian endemic fungus *Bondarwezia loguerciae*. Habitat modelling is being utilised to both better document the distribution and habitat requirements of rare fungal species and to identify potential climate refugia, e. g. *Phlebopus bruchii* in Argentina and *Russula cellulata* in Benin and Tongo, both projects supported by MBZ. Artificial Inteligence tools are being used to refine search efforts being done in collaboration with the Society for the Protection of Underground Networks to generate high resolution distribution data and document mycorrhizal fungal hotspots. A number of actions are being proposed in the Global Strategy for Fungal Conservation directly focus on species conservation. The Global Fungal Strategy is linked to the CBD KMGBF (Global Biodiversity Framework) with the goal of facilitating the integration of fungi into countries' and NGO's


*Sarcographa*
Photo: Bibiana Moncada

conservation policies and actions needed to enable them to successfully meet the goals of the KMGBF.

## PLAN

### Planning

**T-017 Work with countries and regions to develop national strategies for conservation of fungi.** (KSR 8)

Number of plans invited/endorsed by national governments/conservation authorities: 2

Result description: Two separate but related global efforts were an initiative in 2024 and are in progress in 2025: (1) the Chilean and UK Governments introduced a Pledge at CoP16 in Cali calling on CBD Parties to recognise Fungi as a discrete kingdom of organisms unique from animals and plants and to explicitly include fungi in their conservation policies and actions. Over 12 countries have signed the Pledge. The effort is being led by FunCC Deputy Chair Giuliana Furci with a team from the NGO FungiFoundation and collaborators. Efforts to garner more countries supporting the Pledge continue, including a campaign led by the International Mycological Society for members to engage with their National Focal Point encouraging them to support the Pledge, (2) developing a Global Strategy for Fungal Conservation linked to the GBF that identifies actions to facilitate countries' conservation policies and actions was agreed during a workshop at the International Mycological Congress in August, 2024 and was presented during the Congress closing plenary session. The Global Strategy draft is complete and being reviewed. A document highlighting the contribution of fungi to the Global Biodiversity Framework was developed and presented at CoP16 in Cali, 2024. Consultation by the broader mycological and conservation community is ongoing to finalise the Strategy. The Strategy was presented and discussed during a workshop at the Global Partnership for Plant Conservation conference held at Missouri Botanical Gardens in March, 2025. The Global Strategies recommended actions and resources will be integrated into the GSAP-Skills site to the degree possible.

[SSC Grant awarded]

### Policy

**T-018 Investigate and strategise integrating fungi into Multilateral Environmental Agreements and other multinational policies.** (KSR 9)

Number of documents provided to support/guide policy-making: 5

Result description: Both the Chile-UK sponsored Pledge and the Global Strategy for Fungal Conservation highlight the need for including fungi in national and multinational policies and actions. Additionally, efforts to be able to propose fungi for listing in CITES as fungi, not as plants were renewed in 2024 with a publication in *Conservation Biology* and continued in 2025. Efforts also included an editorial and a Baseline Information paper co-written by FunCC Deputy Chair Giuliana Furci and John Scanlon AO, former Secretary-General of the CITES Secretariat. A document submitted by the United Kingdom of Great Britain and Northern Ireland (UK) entitled 'An assessment of the practicalities of the COP12 decision that the convention applies to fungi' was considered during the 78th meeting of the CITES Standing Committee meeting that met in Geneva (Switzerland), February 3-8, 2025. The RBG Kew is now taking the lead with several FunCC members as co-authors of a publication. Concurrently, data are being compiled on the impact of trade on several fungal species for potential nomination for CITES listing.

[SSC Grant awarded]

## ACT

### Conservation actions

**T-021 Enhance *ex situ* and *in situ* conservation and sustainable use initiatives.** (KSR 10)

Number of threatened species benefiting from *ex situ* conservation action: 4

Result description: The FunCC has facilitated efforts by the Brazil Fungus Specialist Group (BrazFunSG) to initiate the first *ex situ* conservation initiative specifically focused on the genetic diversity of threatened Brazilian fungal species. The Collection of Threatened Fungi of Brazil (CFAB) begun in 2024 with financial assistance from the IUCN SSC Office and MBZ and is developing into a significant genetic repository. For 2025, the Colombian Fungal Conservation Specialist Group (ColFunSG) is also establishing a dedicated culture collection aimed at the *ex situ* conservation and recovery of endangered fungal species. *Bresadolia paradoxa*, a very rarely encountered mushroom, is the initial species to be deposited in the collection as part of a multifaceted programme to conserve the species.

**T-022 Produce intervention letters and policy recommendations to address specific needed actions.** (KSR 10)


*Yoshimuriella* sp.
Photo: Bibiana Moncada

Number of intervention letters addressing major drivers/emerging threats of species or population loss: 5

Result description: FunCC members work with national and regional agencies, landowners/land trusts and corporations that manage land to include fungi in conservation actions and planning. Additionally, concerted efforts focused on policy initiatives were undertaken in 2024. A letter was submitted to IUCN Council requesting them to invite the entire Union to follow the IUCN SSC and a number of IUCN members to explicitly recognise fungi in language and action and invited the Secretariat to reach out to all of its staff and offices and encourage them to adopt the recommendations of the FFF Initiative, i.e. to always use animals, fungi and plants, or fauna, flora and funga rather than animals and plants or fauna and flora when referring to macroscopic biodiversity. The FunCC also collaborated with efforts to build support for the Pledge introduced at CoP16 in Cali by Chile and the UK calling on CBD to explicitly recognise fungi and ask countries to include them in their conservation policies and actions. This has included working with partner organisations, among them the International Mycological Association, to encourage members to reach out to their country's Focal Point to support the Pledge.

[SSC Grant awarded]

### Technical advice

**T-016 Work with national and regional agencies, landowners/land trusts and corporations that manage land to include fungi in conservation planning.** (KSR 10)

Number of technical consultations provided to support conservation actions: 3

Result description: Efforts to engage the NatureServe Network – the network that collects, analyses, and delivers biodiversity knowledge to support biodiversity conservation in the US and Canada continued in 2024 and 2025. Results of the 2023 survey of selected Heritage Programs were shared with the network and presented at the biannual Biodiversity Without Boundries Congress held in Seattle, Washington in April, 2024. The multiyear efforts to have fungi included in NatureSeve efforts are resulting in progress, with the NatureServe Network hiring its first two Conservation Mycologists, one each in the Pennsylvania and Oregon offices. NatureServe has just advertised for its first Chief Mycologist.

## NETWORK

### Capacity building

**T-007 Continue to build capacity within Fungal Specialist Groups across the Species Conservation Cycle, communication and other issues.** (KSR 2)

Number of people trained in assessment tools: 93

Result description: In 2024, Red List workshops were held as part of the Brazilian Mycological Congress and following the NESS Congress in China. An on-line national Red List workshop was held for the Polish mycological community. Additionally, the Aquatic Fungal SG organised training workshops on red listing and KBAs. Workshops and presentations on fungal conservation including the creation of a Global Fungal Conservation Strategy were presented at the NatureServe Conference in Seattle, Washington and during CoP16 in Cali. Engagement and capacity building in the first half of 2025 focused on identifying actions and research needs for advancing fungal conservation through the development and implementation of a Global Strategy for Fungal Conservation.

**T-008 Continue building capacity within the mycological community through symposia, short courses and workshops.** (KSR 2)

Number of symposia, short courses, and workshops for the wider mycological community: 0

Result description: Engagement and capacity building in the first half of 2025 has focused on identifying actions and research needs for advancing fungal conservation through the development and implementation of a Global Strategy for Fungal Conservation.

### Membership

**T-002 Add additional members to the FunCC as additional thematic needs are identified.** (KSR 2)

Number of SSC members recruited: 3

Result description: Three new members were added to the FunCC in early 2025; Cátia Canteiro, representing the NGO Society for the Protection of Underground Networks (SPUN), Rachel Hoffmann, PlantLife International, and Georgina Pereira, Center for Species Survival-Fungi, Terra, Dubai.

## COMMUNICATE

### Communication

**T-005 Develop and implement a communication strategy engaging all members of the FunCC including a logo, website and social media.** (KSR 13)


*Clavulina kunmudlutsa*
Photo: Aida Vasco

*Nephroma arcticum*
Photo: Jessica Allen

Number of digital communication outputs developed in relation to specific taxonomic groups: 22

Result description: Online stories were posted throughout 2024 and 2025 through the FunCC X and Facebook accounts, as well as the IUCN Red List Unit communications team. A number of posts highlighted the recognition that the number of fungi on the IUCN Red List (2025.1) has reached 1,300 species, an increase in nearly 1,300 species over the past 10 years as there were only three species of fungi on the Red List as recently as 2014.

**T-006 Work with fungal NGOs and associations, conservation agencies, etc., on campaigns to highlight the importance of fungi, include fungi when talking about biodiversity – fauna, flora, funga – and incorporate fungi in conservation initiatives and land management decisions, education initiatives, etc.** (KSR 13)

Higher visibility of fungi: Ongoing.

Result description: Continued efforts, including working with fungal NGOs and associations, conservation agencies, etc., on campaigns to highlight the importance of fungi, e.g. emphasising the need to include fungi when talking about biodiversity – fauna, flora, funga – and incorporate fungi in conservation initiatives and land management decisions, education initiatives, etc. Concerted efforts in 2024 and 2025 focused on building support for the Pledge introduced at CoP16 by Chile and UK and getting buy-in for the development of a Global Strategy for Fungal Conservation roughly analogous to the highly successful Global Strategy for Plant Conservation.

[SSC Grant awarded]

**T-009 Raise awareness and importance of conservation initiatives and action within the mycological community through symposia, short courses and workshops.** (KSR 13)

Number of SSC members' presentations developed in relation to specific taxonomic groups: 32

Result description: Fungal Conservation Committee members each give several seminars/public talks nearly every year to a broad range of audiences. A few examples of the type of presentations include: Chair Mueller was interviewed for four press articles, gave five seminars/presentations, and led several training sessions for citizen science groups; Deputy Chair Giuliana Furci was featured in over 50 articles, including the first cover story on fungi in the National Geographic magazine, several documentaries including a NatGeo short film titles "Flora Fauna Funga", and presented talks at several dozen public events; GCSS Fungal Coordinator Cátia Canteiro gave a number of presentations to students and the general public, and member Susana Gonçalves spread the word about value of citizen science projects for documenting the diversity and distribution of fungi in both natural and urban environments.

## Acknowledgements

The Fungal Conservation Committee is thankful to the Mohamed bin Zayed Species Conservation Fund, SSC and On the Edge for funding and the IUCN Red List Unit and SSC Chair's team for their support with the extinction risk assessments of fungi. We would also like to thank Royal Botanic Gardens, Kew for collaborating in the development of tools and procedures to accelerate the number of fungal species published in the Red List, and the Indianapolis Zoo for funding this project. Fungi Foundation has been a key partner and leader in fungi conservation, especially with their efforts to increase recognition of fungi and their inclusion in conservation policy. Thanks go to Harriet Brooker in the IUCN Global Communications unit for her efforts to highlight fungi in the 2025.1 Red List press release and associated postings. We also acknowledge the Indianapolis Zoo and its Global Center for Species Survival for the support of the Plants and Fungi Conservation Coordinators. Lastly, a special call out needs to be made to Kira Mileham, Director IUCN SSC Strategic Partnerships, for her undaunting efforts to create a Center for Species Survival - Fungi - you did it!

## Summary of achievements

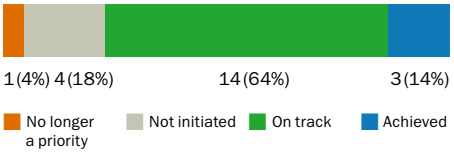
**Total number of targets 2021–2025:** 22

**Geographic regions:** 22 Global

**Actions during 2024-2025:**

| | |
|---|---|
| Assess: | 3 (KSR 5, 6) |
| Plan: | 2 (KSR 8, 9) |
| Act: | 3 (KSR 10, 11) |
| Network: | 3 (KSR 2) |
| Communicate: | 3 (KSR 13) |

**Overall achievement 2021–2025:**



Black Rhino (*Diceros bicornis*)
Photo: Save The Rhino Trust Namibia

Marsh Cinquefoil
(*Comarum palustre*)
Photo: Magnus Goransson

Azores Nursery Spider
(*Pisaura acoreesins*)
Photo: Paulo A.V. Borges

Suweon Treefrog
(*Dryophytes suweonenis*)
Photo: Amael Borzee

*Phallus aureolatus*
Photo: Juliano Baltazar

Eurasian Griffon (*Gyps fulvus*)
Photo: Andre Botha

Black and White Snapper
(*Macolor niger*)
Photo: David B. Snyder