



Species

ISSUE 62

2022 Report of the IUCN Species Survival Commission and Secretariat



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 each year. Each SSC Group contributes to this document by providing a yearly summarised description of their achievements, which is presented in stand-alone reports.

Structure of the IUCN SSC Stand-alone Report

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

Title of the SSC Group

Photograph(s) of the Chair / Co-Chairs

Group information

Includes names of Chair / Co-Chairs, Vice-Chairs, Deputy Chairs, Red List Authority Coordinators and Program Officers, their institutional affiliations, number of members and social networks currently active.

Logo of the SSC 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 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 were generated during the reported year, 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.

Example for the recommended citation:

Kryvomaz, T, and Camino, M. 2023. 2022 Report of the Chytrid, Zygomycete, Downy Mildew and Myxomycete Specialist Group. In: Nassar, JM, García, L, Mendoza, L, Andrade, ND, Bezeng, S, Birkhoff, J, Bohm, M, Canteiro, C, Geschke, J, Henriques, S, Ivande, S, Mileham, K, Ramos, M, Rodríguez, A, Rodríguez, JP, Street, B, and Yerena, E (Eds.). 2022 Report of the IUCN Species Survival Commission and Secretariat. International Union for Conservation of Nature. 6 pp.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

IUCN SSC Chytrid, Zygomycete, Downy Mildew and Myxomycete Specialist Group



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COORDINATOR**

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NUMBER OF MEMBERS

26

SOCIAL MEDIA AND WEBSITE

Facebook: Slime Mold Identification & Appreciation
Website: www.cybertruffle.org.uk/moulds/index.htm

Mission statement

The mission of our IUCN Specialist Group is to promote the conservation of chytrids, downy mildews, myxomycetes and zygomycetes.

Projected impact 2021–2025

Not stated.

Targets 2021–2025

ASSESS

T-001 Study climate change impact on myxomycetes, chytrid, zygomycete and downy mildew.

Status: Achieved

PLAN

T-004 Analyse population trends, threats, and assess species using the IUCN Red List criteria and determine conservation actions for chytrids, zygomycetes, downy mildews and myxomycetes.

Status: Achieved

ACT

T-002 Advance the conservation activity for chytrid, zygomycete, downy mildew and myxomycetes.

Status: Achieved

NETWORK

T-003 Organise a network of specialists and stakeholders for discussing conservation problems for 'lower fungi' and for exchange of successful protection measures.

Status: Achieved

COMMUNICATE

T-005 Promote the conservation of different groups of living organisms that were not considered to be in danger before but are in need of protection today.

Status: Achieved

Activities and results 2022

ASSESS

Research activities

T-001 Study climate change impact on myxomycetes, chytrid, zygomycete and downy mildew. (KSR 5)

Number of scientific publications about species research that acknowledges SSC affiliation: 7

Result description: In 2022, we published seven scientific papers: (1) Camino Vilaró M et al. (2022). 'Diversidad fúngica de la Ciénaga de Zapata: estados asexuales de Ascomycota y Myxomycetes'. *Acta Botánica Cubana* 220. In this paper, the geographical

distribution area of the Myxomycetes species known in Cuba is expanded and provides elements to be taken into account to assess the current conservation status of its taxa in the country; (2) Mena-Portales J, Camino Vilaró M, Minter D W (2022). 'Actualización del plan de acción de la estrategia de conservación de la diversidad fúngica en Cuba'. *Acta Botánica Cubana* 221 (*in press*); (3) Camino Vilaró M, Castro Hernández L (2022). 'Advances in the evaluation of the conservation status of fungal species (fungi and myxomycetes): experiences in Cuba', delivered at the Conference in III Winter School and VII Microbial ecology workshop (Havana); (4) Camino Vilaró M, Castro Hernández L (2022). 'IUCN categories and criteria applied in the evaluation of the conservation status of fungal species', delivered at the Conference in Workshop of the Project 'Implementation of actions of the Strategy for the Conservation of Fungal Diversity in Cuba' (Havana); (5) Camino Vilaró M, et al. (2022) 'Mycobiota in the Bamburanao mountain: Basidiomycota y Myxomycota, delivered at the Conference in Biodiversidad Caguanaes./national scientific event; (6) Castro Hernández L, Abreu Herrera Y, Camino Vilaró M (2022).



© Allain Michaud

Physarum bogoriense
Photo: Allain Michaud

'Characterization of environmental variables in sites of presence of species of the genus *Arcyria* (Trichiales, Myxomycetes) in Cuba', delivered at the Conference in Biodiversidad Caguanes/national scientific event; (7) Mancina C A, Vega-Catalá C, Gómez-Echevarría J L (2022). 'El cambio climático y la biodiversidad en Cuba: impactos, adaptación y áreas prioritarias para la conservación'. *Editorial AMA*, Havana, 208 pp. (included six species of fungi in the 'Species Sheets').

PLAN

Planning

T-004 Analyse population trends and threats, and assess species using the IUCN Red List criteria and determine conservation actions for chytrids, zygomycetes, downy mildews and myxomycetes. (KSR 8)

Number of conservation plans/strategies developed: 3

Result description: We have updated the National Strategy for the Conservation of Fungal Diversity (National Strategy/Cuba). This new strategy version is now in press in *Acta Botánica Cubana* 221. Additionally, we have made progress in the preparation of the Latin American Strategy for the Conservation of Fungal Diversity (Regional Strategy), which is still in progress; finally, we made the addition of new fungal species

to the Red List of Cuba, and the assessment of another 123 Cuban species (Fungi and Myxomycetes) using the IUCN Red List criteria, besides the 3rd version of Cuban Fungi and Myxomycetes IUCN Red List.

ACT

Policy

T-002 Advance the conservation activity for chytrid, zygomycete, downy mildew and myxomycetes. (KSR 10)

Number of position statements addressing major drivers/emerging threats of species or population loss: 2

Result description: In 2022, we (1) held sessions on technical advice on the conservation of Fungi and Myxomycetes with specialists from the National Center for Protected Areas of Cuba; (2) make predictions on the effects of Climate Change on Myxomycetes species in different climate scenarios, obtaining predictive models of the spatial distribution of 11 species of myxomycetes in Cuba in 2070 in different climatic scenarios, and the contribution of 19 bioclimatic variables to the potential distribution of the species was determined. These predictions are not yet published, and are a result of the National Project 'Diversity and conservation of fungi in three Cuban wetlands'.

NETWORK

Capacity building

T-003 Organise a network of specialists and stakeholders for discussing conservation problems for 'lower fungi' and for exchange of successful protection measures. (KSR 2)

Number of people trained in assessment tools: 6

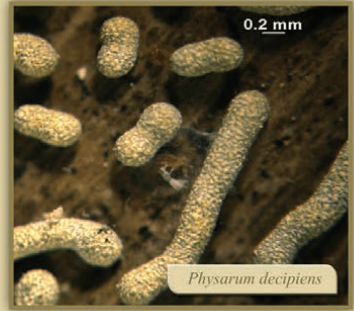
Result description: In 2022, we achieved the following: (1) IUCN Red List Assessor training: three people received training: Modules 1 to 7- Regional Assessor Certificate (Mayra Camino Vilaró), Modules 1 to 8 - Global Assessor Certificate (Yudisleidys Abreu Herrera), Modules 1 to 9 - Global and Regional Assessor Certificate (Lázaro Castro Hernández); (2) we had the addition of two members to the Specialist Group (Lic. Yudisleidys Abreu Herrera from Instituto de Ecología y Sistemática, Cuba, and Lic. Lázaro Castro Hernandez); (3) developed training for mycorrhizal three specialists to begin the species assessment; (4) continue building capacity during field expeditions with conservation workers in protected areas where we work. An example was in the Caguanes National Park and in Protected Natural Landscape Escaleras de Jaruco; (5) a workshop was held to analyse examples of categorised



Hemirichia calyculata



Hemirichia serpula



Physarum decipiens



Lycogala epidendrum

MYXOMYCETES DE CUBA

Los Myxomycetes constituyen un grupo especial de organismos al poseer caracteres morfológicos intermedios entre los protozoos y los hongos, por lo que su ubicación a lo largo de la historia ha sido controvertida. Se ubican en el Reino Protozoa y se conocen como "hongos mucilaginosos". Se encuentran en muchos hábitats y sustratos. Presentan fructificaciones con diferentes colores, en algunas hay presencia de carbonato de calcio, pero se dificulta su recolección por su pequeño tamaño.



Physarella oblonga



Arcyria demudata



Arcyria cinerea



Didymium clavus



Arcyria obvelata



Physarum melleum



Semonitis fusca

CONSERVAR LOS MYXOMYCETES ES CONSERVAR LA BIODIVERSIDAD

DISEÑO: WILDEE ALONSO - MAYRA CAMINO FOTOS: NELIS BLANCO, MAYRA CAMINO, YAMIR TORREZ, LÁZARO CASTRO

Laminated sheet with examples of Myxomycetes from Cuba, used for education at schools, and for conservationists working in protected areas and environmental educators
 Photos: Wildee Alonso, Mayra Camino, Nelis Blanco, Yamir Torrez, Lázaro Castro



Diacheopsis kowalskii
Photo: Allain Michaud



Dianema inconspicuum
Photo: Allain Michaud

species of fungi and myxos as part of the project 'Implementation of actions of the Strategy for the Conservation of Fungal Diversity in Cuba'; (6) two conferences held; (a) Conference 'Avances en la evaluación del estado de conservación de especies fúngicas (hongos y mixomicetes): experiencias en Cuba' in III Winter School and VII Microbial ecology workshop (Havana), and (b) Conference 'IUCN criteria and categories applied in the evaluation of the conservation status of fungal species' in the workshop of the Project Implementation of actions of the Strategy for the Conservation of Fungal Diversity in Cuba.

COMMUNICATE

Communication

T-005 Promote the conservation of different groups of living organisms that were not considered to be in danger before but are in need of protection today. (KSR 13)

Number of communication products using innovative tools: 4

Result description: In 2022, our communication products included: (1) myxomycetes and fungi stickers with educational messages, distributed at meetings, events and talks, to students from schools included in the project; (2) an online Fungi

exhibition, within the Instituto de Ecología y Sistemática website (<http://www.ecosis.cu/los-hongos-en-la-naturaleza-exponacional-de-hongos/>); (3) laminated sheets of the divisions Basidiomycota, Ascomycota, and the class Myxomycetes, including photos of Cuban species (fungi and myxos) with scientific names and educational messages. These are being used in educational actions in schools at different levels, with conservation workers in protected areas and with environmental educators; (4) an educational program for primary education for 4th, 5th, and 6th grades to schools included in the project, the programme including videos, presentations, conferences and preparation of models with various materials (polyfoam, among others).

Acknowledgements

We would like to acknowledge the support from the IUCN, its Staff, Commissions, especially the Species Survival Commission, and the volunteer experts who made all this work possible. We would also like to thank in particular the Environment Agency (AMA), Ministry of Science, Technology and Environment (CITMA) in Cuba for its support for the projects 'Implementation of actions of the Strategy for the Conservation of Fungal

Diversity in Cuba' (2022-2024) Code PS211LH003-028 and 'Biological diversity associated with mountainous ecosystems of the western and central Cuba' (2019-2022) Code: PS211LH003-007, approved by the program 'Sustainable use of the components of Biological Diversity in Cuba'.

Summary of achievements

Total number of targets 2021–2025: 5

Geographic regions: 5 Global

Actions during 2022:

Assess: 1 (KSR 5)

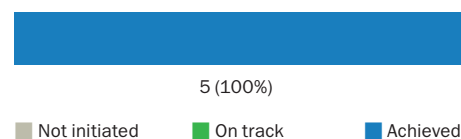
Plan: 1 (KSR 8)

Act: 1 (KSR 10)

Network: 1 (KSR 2)

Communicate: 1 (KSR 13)

Overall achievement 2021–2025:



■ Not initiated

■ On track

■ Achieved