



Species

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2023 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 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 stand-alone 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 Authority 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 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.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

Example for the recommended citation:

Magos Brehm, J., Maxted, N. and Yazbek, M. 2024. 2023 Report of the Crop Wild Relative Specialist Group. In: IUCN SSC and Secretariat. *2023 Report of the IUCN Species Survival Commission and Secretariat*. Gland, Switzerland: IUCN. 8 pp.

2023 Report

IUCN SSC Crop Wild Relative Specialist Group

CWRSG
CROP WILD RELATIVE SPECIALIST GROUP



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NUMBER OF MEMBERS

64

Mission statement

The vision of the Crop Wild Relative Specialist Group (CWRSG) is the effective conservation and use of crop wild relatives (CWR) and their increased availability for crop improvement, for the benefit of the environment and human society worldwide.

Projected impact 2021–2025

By the end of 2025, we hope to have established two regional networks of *in situ* conservation sites for active conservation of CWR to complement current *ex situ* conservation activities. Our vision is a developing world in which the full potential of CWR diversity is used to maximise the development of healthy, resilient food systems, where rural communities and family are recognised for their sustaining of vital conservation action, and where nutritional security is not limited by climate change or breeders' access to CWR diversity.

Targets 2021–2025

ASSESS

T-006 Implement research projects on CWR conservation and sustainable use.
Status: Achieved

T-007 Complete threat assessment of around 1,400 global priority CWR taxa.
Status: Not initiated

PLAN

T-008 Plan a European regional network of CWR *in situ* conservation.
Status: Achieved

T-009 Plan regional networks of CWR *in situ* conservation outside Europe.
Status: Achieved

T-010 Plan national networks of CWR *in situ* conservation.
Status: Achieved

T-011 Improve CWR conservation policy context at global and regional levels.
Status: On track

T-012 Improve CWR conservation policy context at national level.
Status: Achieved

ACT

T-013 Develop tools and guidelines to help CWR conservation planning or to guide the implementation of *in situ* and *ex situ* conservation actions targeting CWR.
Status: Achieved

T-014 Establish a global network of CWR *in situ* conservation.
Status: On track

T-015 Establish a European regional network of CWR *in situ* conservation.
Status: On track

T-016 Establish regional networks of CWR *in situ* conservation outside Europe.
Status: Achieved

T-017 Establish national networks of CWR *in situ* conservation.
Status: On track

T-018 Advance *ex situ* conservation of representative genetic diversity of the global priority CWR diversity in gene banks.
Status: On track

T-019 Advance *ex situ* conservation of national priority CWR.
Status: On track

NETWORK

T-001 Establish effective links among various stakeholders for the implementation of CWR conservation actions.
Status: Achieved

T-002 Review membership and expand the taxonomic and geographic representation for the group by inviting new experts from Africa, Central/South America, Asia, Middle East and Oceania.
Status: On track

T-003 Build capacity in CWR conservation planning.
Status: Achieved

T-004 Build capacity in red listing.
Status: On track

COMMUNICATE

T-020 Publish papers on CWR conservation and use.
Status: Achieved



Hjörtur Thorbjörnsson, from Reykjavik Botanic Garden, inventorying CWR at Engey island outside Reykjavik, Iceland, in July 2023
Photo: Magnus Göransson

T-021 Maintain and update CWR-related websites.

Status: Achieved

T-022 Organise webinars on CWR conservation.

Status: Achieved

Activities and results 2023

ASSESS

Research activities

T-006 Implement research projects on CWR conservation and sustainable use. (KSR 5)

Number of research projects completed or supported by SSC members per taxonomic group and region: 5

Result description: The project “Climatic changes and plant genetic resources: the overlooked potential of Cabo Verde’s endemic flora” led by a member of the CWRSG from the Centre for Ecology, Evolution and Environmental Changes, Lisbon (Portugal), aimed at identifying the unexplored CWR taxa of Cabo Verde and came to an end in 2023. The locally funded project entitled “Conservation and promoting the use of vegetable Crop Wild Relatives native to Jordan” ended in 2023 and enabled the sampling and conservation of new populations of CWR native to Jordan. In Spain, members of the CWRSG

from the Universidad Rey Juan Carlos have been working on (i) a project funded by the Spanish Ministry of Agriculture, Fisheries and Food focused on the implementation of the National Strategy for the Conservation and Use of Crop Wild Relatives and Wild Food Plants of Spain (2023-2026); (ii) the “DACWIRE project: drought adaptation in crop wild relatives: an integrative approach”, funded by the Spanish National Council of Research (2022-2026). In 2023 the project “[Extension of EURISCO for Crop Wild Relatives \(CWR\) in situ data and preparation of pilot countries’ datasets](#)” funded by the Federal Ministry of Food and Agriculture of Germany and coordinated by the European Cooperative Programme for Plant Genetic Resources (ECPGR), Rome (Italy), came to an end; this project was implemented by members of the CWRSG from Albania, Bulgaria, Czech Republic, Germany, Italy, Lithuania, Portugal, Spain, and the UK; in some of these countries national CWR checklists were obtained, besides the identification of national priority CWR populations for *in situ* conservation that will be made available for utilization. The four-year project “[Conservation and Sustainable Use of Genetic Resources in the Nordic Countries](#)”, funded by the Nordic Council of ministers involves all five Nordic countries, Denmark, Iceland,

Norway, Sweden, and Finland, including the autonomous Finnish region of Åland. During 2023, activities included climate change modelling of geographic distribution under different climate scenarios, analysis of genetic diversity of selected CWR, inventory of CWR in protected areas, collection of seeds for long-term storage in gene banks, a Nordic-Baltic stakeholder workshop in Helsinki, and communication activities.

PLAN

Planning

T-008 Plan a European regional network of CWR *in situ* conservation. (KSR 8)

Number of species conservation plans/strategies developed: 0

Result description: The project “Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries’ datasets” ended in 2023 and the participating countries contributed with information about national priority CWR populations to be actively conserved *in situ*; this information was uploaded to the European Search Catalogue for Plant Genetic Resources ([EURISCO](#)).

T-010 Plan national networks of CWR *in situ* conservation. (KSR 8)

Number of conservation plans/strategies developed: 0

Result description: In Iceland, inventories of CWR in urban and green areas of Reykjavík, were carried out in 2023. The work was led by the Reykjavik Botanic Garden; the results of the inventories will be published alongside threat analysis and long-term conservation strategies in 2024; this project was funded by the Nordic Council of Ministers under their call for national pilot projects on nature-based solutions. In Romania, an inventory of CWR has been initiated during 2023 and will be followed by the identification of priority sites for the designation of special genetic reserves for CWR active *in situ* conservation. In Spain, the Universidad Rey Juan Carlos team has been developing an algorithm and discussing criteria to propose a national network of genetic reserves composed of 40 locations distributed across the country; the final proposal will be presented at the end of 2024, after discussion with the competent public administration. Within the project “Conservation and Sustainable Use of Genetic Resources in the Nordic Countries”, inventories of CWR were conducted in one or more areas in each Nordic country, between 2021 and 2023. In 2023, they were performed in Denmark in the nature national parks in Husby and Stråsø, a research area in Mols and a privately owned land in Kattrup, and in Åland in 44 inventory squares in the nature reserve Nåtö-Jungfruskär; reports will be published in 2024 and include observations of prioritised CWR, informal evaluation of threats and specific conservation recommendations. The project “Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries’ datasets” also contributed to planning national



Comarum palustre L., a Tertiary wild relative of strawberry growing on Viðey island outside Reykjavik, Iceland
Photo: Magnus Göransson



Fragaria vesca L., one of the progenitors of cultivated strawberry with potential for improving polyphenol content and to confer resistance against anthracnose and mildew; here it was recorded in Slatioara Secular Forest Reserve, Romania
Photo: Șandru Marius Dan

networks of CWR *in situ* conservation in the participating countries.

Policy

T-012 Improve CWR conservation policy context at national level. (KSR 9)

Number of policies where SSC members provided technical input: 1

Result description: Members of the CWRSG from the Suceava Genebank (Romania) were involved in the preparation of the National Strategy on the Conservation and Use of Plant Genetic Resources for Food and Agriculture (2023-2033); they also led the discussion carried out at the national level in a meeting organized by the Academy of Agricultural and Forestry Sciences; the National Strategy will soon be officially adopted; its vision, major goal and specific objectives are in line with the EU Strategy for Biodiversity for 2030, and Plant Genetic Resources Strategy for Europe; it includes an entire chapter dedicated to CWR and wild food plants, specifically to their conservation both *in situ* and *ex situ*, as well as sustaining their utilization either directly or indirectly, through research and breeding.

ACT

Conservation actions

T-013 Develop tools and guidelines to help CWR conservation planning or to guide the implementation of *in situ* and *ex situ* conservation actions targeting CWR. (KSR 10)

Number of technical documents provided to support conservation actions: 2

Result description: In Jordan, the new extension of the National Seed Bank from the National Agriculture Research Centre has been built since 2020. The

new National Seed Bank will enlarge its scope by including *ex situ* collections of all the native flora and by focusing on CWR; the new building will include research labs to support research on seed optimal conservation conditions as well as facilities for tissue storage and cryopreservation. Additionally, a botanic garden dedicated to CWR native to Jordan has been planned. In Malawi, the development of Access and Benefit-Sharing guidelines on plant genetic resources for food and agriculture in general and on CWR in particular has been initiated during 2023. Within the EU-funded [PRO-GRACE project](#) "Promoting a Plant Genetic Resource Community for Europe", a system for describing, managing and accessing *in situ* conserved populations and interfacing them with the European Search Catalogue for Plant Genetic Resources ([EURISCO](#)), as well as further development of the existing methods and minimum quality standards for *in situ* management of PGR, including CWR, was initiated in 2023.

T-017 Establish national networks of CWR *in situ* conservation. (KSR 10)

Number of areas under management for the species or group of species: 9

Result description: The first eight genetic reserves for *Arnica montana* were established in Germany within the context of a project funded by the Federal Ministry for Food and Agriculture. These are the first reserves in the [new subnetwork](#) within the [German National Network of CWR Genetic Reserves](#). In Spain, the project DEHEWILD funded by the autonomous region of Extremadura will contribute to the establishment of a CWR genetic reserve near the

National Park of Monfragüe, thus contributing the implementation of the national network of CWR *in situ* conservation for the country; the work initiated in 2023 and will continue in 2024.

T-018 Advance *ex situ* conservation of representative genetic diversity of the global priority CWR diversity in gene banks. (KSR 10)

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

Result description: In the Nordic CWR project, seeds from a number of nationally and regionally priority CWR have been collected in 2023 (see Target 19). Of these, the following collected species are included in the global priority CWR list: *Allium schoenoprasum*, *Daucus carota* subsp. *carota*, *Lactuca serriola*, and *Medicago sativa*.

T-019 Advance *ex situ* conservation of national priority CWR. (KSR 10)

Number of threatened species benefiting from *ex situ* conservation action: 0

Result description: Members of the group from Malawi were involved in the multiplication of CWR taxa for long-term *ex situ* conservation, have planned the collection of 10 more taxa in 2024 as well as to send out duplicates of six CWR to the Svalbard Global Seed Vault. Within the two Nordic CWR projects, the following collections have been made during 2023: Denmark (6 accessions, 6 taxa), Finland, mainland (9 accessions, 3 species) and Åland Islands (15 accessions, 14 taxa), Iceland (14 accessions, 4 taxa), Norway (7 accessions, 6 taxa), Sweden (25 accessions, 16 taxa);

the accessions that live up to the minimum criteria set at NordGen (gene bank for the Nordic countries), will be conserved long-term and made available for users.

NETWORK

Capacity building

T-003 Build capacity in CWR conservation planning. (KSR 2)

Number of people trained in conservation planning: 37

Result description: In Italy, members of the CWRSG supervised 15 Master of Science students in 2023 ('Plant Biodiversity Conservation and Management' course). Members of the CWRSG supervised two final degree theses on network design for the *in situ* conservation of wild olive trees and wild grapevine in Spain. Twenty researchers from National Agricultural Research Centers from Egypt, Iraq, Jordan, Lebanon, Palestine, and Syria were trained on CWR identification and conservation in West Asia in a training workshop organized by the International Center for Agricultural Research in the Dry Areas (ICARDA) and the University of Birmingham, UK, which was held in Terbol (Lebanon), between May 29 and June 9, 2023.

Membership

T-002 Review membership and expand the taxonomic and geographic representation for the group by inviting new experts from Africa, Central/South America, Asia, the Middle East and Oceania. (KSR 2)

Number of SSC members recruited: 3

Result description: In 2023, experts from Canada, Jordan, Lebanon, Portugal, Sri Lanka, the UK, and the US joined the CWRSG.

Synergy

T-001 Establish effective links among various stakeholders for the implementation of CWR conservation actions. (KSR 1)

Number of in-kind partnerships established and maintained: 1

Result description: In 2023, members of the CWRSG organized and participated in the Nordic stakeholder workshop "Long-term Conservation and Access to Nordic Crop Wild Relatives" that took place in Helsinki (Finland) in October 2023; representatives of both Nordic and Baltic countries were present and discussed the themes of conservation of CWR in protected areas as well as potential synergies amongst the two regions. Additionally, members of the CWRSG established connections with experts in South and Southeast Asia to develop future grant proposals to implement CWR conservation actions and enhance regional capacity for CWR conservation planning.

COMMUNICATE

Communication

T-020 Publish papers on CWR conservation and use. (KSR 13)

Number of published papers: 15

Result description: Fourteen publications were published in 2023 as follows:

(1) Aldow, A.M. *et al.* (2023). "Conservation of crop wild relative diversity in Northeast Africa: checklist and prioritization". *Crop Science* 63: 3430–3442. (2) Brilhante, M. *et al.* (2023). "Diversity patterns and conservation of the *Vigna* spp. in Mozambique: A comprehensive study".

Frontiers in Ecology and Evolution, 10, 1275. (3) Drucker, A.G. *et al.* (2023). "Community-level incentive mechanisms for the conservation of crop wild relatives: A Malawi case study". *Plants* 12(5). (4) Fitzgerald, H., Kiviharju, E., Palmé, A. and Hyvärinen, M. (2023). "Complementary Analysis and Implementation Plan for Conservation of Crop Wild Relatives in Finland". *Plants* 12(18): 3313. (5) Fitzgerald, H. and Kiviharju, E. (2023). "Sukulaiset avuksi". *Geenivarat* p 15. (6) Hagenblad, J. *et al.* (2023) "Limited genetic changes observed during *in situ* and *ex situ* conservation in Nordic populations of red clover (*Trifolium pratense*)". *Frontiers in Plant Science* 14. (7) Hochkirch, A. *et al.* (2023). "A multi-taxon analysis of European Red Lists reveals major threats to biodiversity". *PLoS ONE* 18(11):e0293083. (8) Karam, N. *et al.* (2023). "Phenotypic diversity of *Medicago* crop wild relatives growing in Lebanon". *Genetic Resource and Crop Evolution*, 70: 1487–1499. (9) Maxted, N. and Magos Brehm, J. (2023). "Maximizing the crop wild relative resources available to plant breeders for crop improvement". *Frontiers in Sustainable Food Systems* 7. (10) Nduche, M. *et al.* (2023). "In situ and ex situ conservation gap analysis of West African priority crop wild relatives". *Genetic Resources and Crop Evolution*, 70: 333–351. (11) Poyatos, C. *et al.* (2023). "Differential patterns of within- and between-population genetically based trait variation in *Lupinus angustifolius* L.". *Annals of Botany* 132(3): 541–552. (12) Rahman, W., Magos Brehm, J. and Maxted, N. (2023). "The impact of climate change on the future distribution of priority crop



wild relatives in Indonesia and implications for conservation planning”. *Journal for Nature Conservation* 73: 126368. (13) Sacristán-Bajo, S. et al. (2023). “[Population origin determines the adaptive potential for the advancement of flowering onset in *L. angustifolius* L. \(Fabaceae\)](#)”. *Evolutionary Applications* 16(1): 62–73. (14) Sayde, E. et al. (2023). “[Crop wild relatives in Lebanon: mapping the distribution of Poaceae and Fabaceae priority taxa for conservation planning](#)”. *Genetic Resource and Crop Evolution* 70: 2097–2113. (15) Torres, E. et al. (2023). “[Facilitated adaptation as a conservation tool in the present climate change context: a methodological guide](#)”. *Plants* 12(6):1258.

T-021 Maintain and update CWR-related websites. (KSR 12)

CWR related websites maintained and updated: 2

Result description: The [webpage](#) on the CWR genetic reserves in the Biosphere Reserve of Sierra del Rincón in Spain was updated with new information. The [webpage](#) “The Italian flora of human interest: Crop wild relatives and wild harvested plants” has been maintained by members of CWRSG and the database of [Italian CWR and wild-harvested plants](#) has been made available online. The Nordic CWR website is maintained by NordGen; on this website, several new CWR plant portraits were published during 2023 (*Mentha arvensis*, *Allium fistulosum*, *Trifolium repens*, *Prunus spinosa*) as well as a short film about the effect of climate change on the [geographic distribution of CWR in the Nordic region](#).

Acknowledgements

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Summary of achievements

Total number of targets 2021–2025: 21

Geographic regions: 14 Global, 3 Africa, 6 Europe

Actions during 2023:

Assess: 1 (KSR 5)

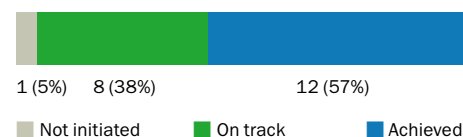
Plan: 3 (KSR 8, 9)

Act: 4 (KSR 10)

Network: 3 (KSR 1, 2)

Communicate: 2 (KSR 12, 13)

Overall achievement 2021–2025:



Lactifluus neotropicus
Photo: Aida Vasco



Sternberia lutea
Photo: Hayri Duman



Tetra Parnaiba
Photo: Karina Molina



Egretta rufescens
Photo: Ernesto Gómez



Mayfly nymph (*Ecdyonurus* sp.)
Photo: Astrid Schmidt-Kloiber
and Wolfram Graf



Nothobranchius fuscotaeniatus
Photo: Csenge Nagy



Trioceros hoehnelii
Photo: Christopher V. Anderson

