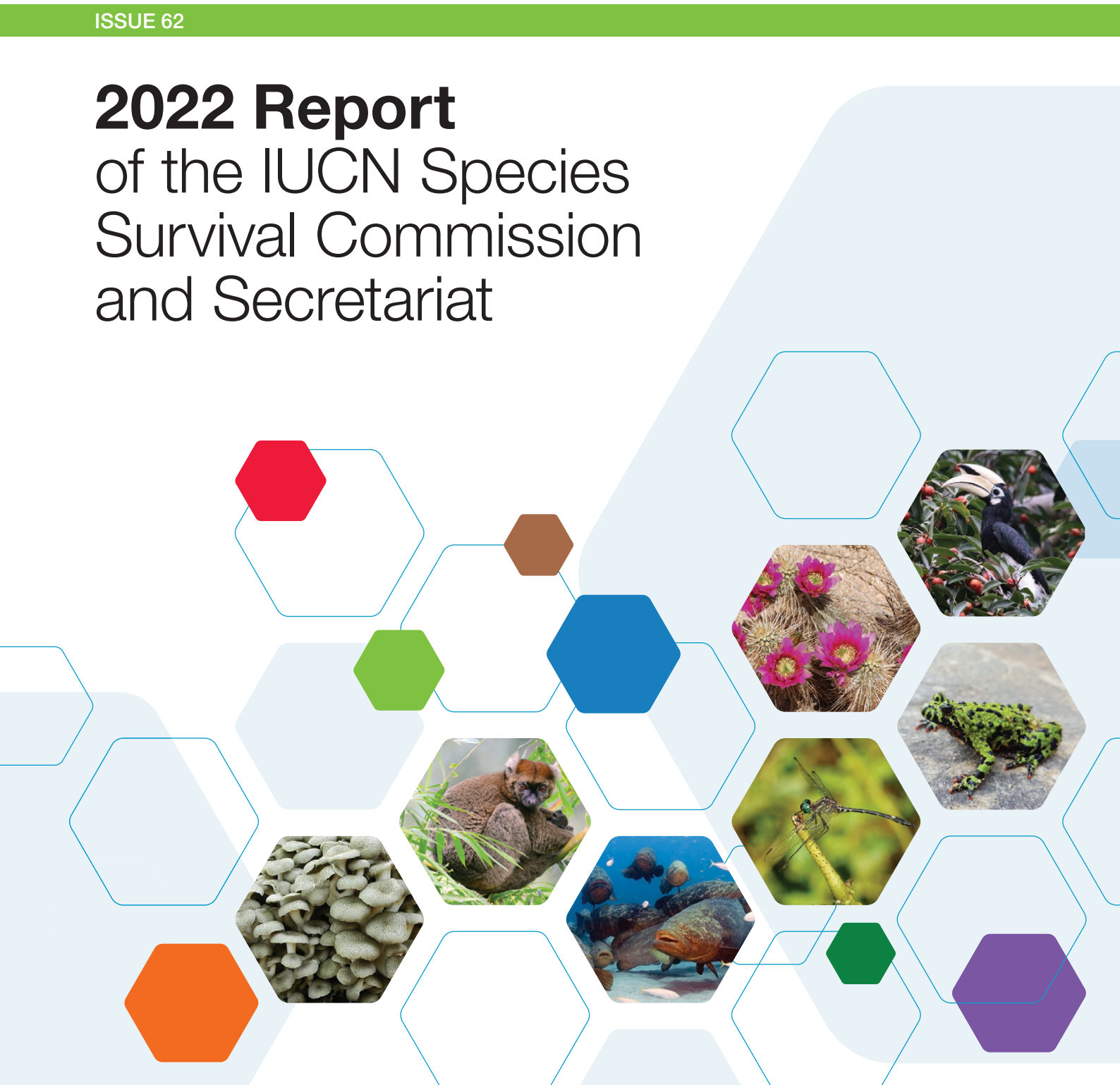




Species

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:

Maxted, N, Yazbek, M, and Brehm, J. 2023. 2022 Report of the Crop Wild Relative 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. 8 pp.

Animalia

Fungi

Plantae

National Species

Disciplinary

Action Partnership

Task Force

Red List Authority

Committee

Center for Species Survival

IUCN SSC Crop Wild Relative Specialist Group



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NUMBER OF MEMBERS

57

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/family farmers 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: On track

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

T-021 Maintain and update CWR-related websites.

Status: Achieved

T-022 Organise webinars on CWR conservation.

Status: Achieved

Activities and results 2022

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: 2

Result description: In Germany, the project Revitalization and ecological enhancement of soil-sour rough Grasslands through the enrichment and sustainable use of the medicinal plant *Arnica montana*, funded by the Federal Ministry for Food

and Agriculture, was implemented; one of the objectives of this project is the establishment of a network of *Arnica* genetic reserves. The four-year Nordic Project on CWR conservation and sustainable use of genetic resources in the Nordic countries (<https://www.nordgen.org/en/projekts/crop-wild-relatives/>), funded by the Nordic Council of Ministers (8 million DKK for 2021-2024) involves all five Nordic countries (Denmark, Iceland, Norway, Sweden, and Finland, including the autonomous Finnish region of Åland), has been successfully implemented during the first two years and substantial progress has been made. During 2022, activities included climate change modelling of the geographic distribution of CWR under different climate scenarios, analysis of genetic diversity in selected CWR, inventory of CWR in protected areas, collection of seeds for long-term storage in gene banks, and communication activities. In Lebanon, two MSc students from the Lebanese University worked at ICARDA for their thesis on the management and conservation of CWR (wild fruit trees and wild relatives of wheat and barley).

PLAN

Planning

T-009 Plan regional networks of CWR *in situ* conservation outside Europe. (KSR 8)

Number of conservation plans/strategies developed: 1

Result description: In the Southern Africa Development Community (SADC), the conservation planning backbone of the SADC Network for the *In Situ* Conservation of CWR was published in the peer-reviewed journal *Diversity and Distributions* (Magos Brehm *et al.* 2022, see Target 020). In West Africa, *in situ* –and *ex situ*– conservation planning was carried out to identify sites to establish sites for the active *in situ* conservation of regionally priority CWR (Nduche *et al.* 2022, see Target 019). Globally, CWR conservation planning examined whether CWR could benefit from being conserved in biodiversity hotspots (Vincent *et al.* 2022).

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

Number of conservation plans/strategies developed: 3

Result description: In Germany, the coordinating institutions of two CWR national networks (Wild Grapevine and Arnica) were identified, cooperation agreements signed, and genetic reserves are in the process of being designated. In the UK, the University of Birmingham and Natural England undertook a study to identify the top National Nature Reserves for CWR *in situ* conservation; this work is ongoing.

Policy

T-011 Improve CWR conservation policy context at global and regional levels. (KSR 9)

Number of policies where SSC members provided technical input: 0

Result description: Associated with the EC Horizon 2020 funded project Farmer's Pride, two reports were published in 2021 which were then used to influence the European CWR conservation and use policy in 2022. The reports used were: (1) 'Effectiveness of existing levels of support for conservation and use' (https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2021/06/D3.1_Analysis_of_effectiveness_of_in_situ_support_mechanisms.pdf), and (2) 'General public's willingness to pay for agrobiodiverse-related goods and services?' (https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2021/06/D3.2_General_publics_WTP_for_landrace_conservation.pdf).

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

Number of policies where SSC members provided technical input: 3

Result description: The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) compliance reports were prepared for Lebanon and Syria in 2022 and will be published soon on the website of the ITPGRFA. In Spain, a policy on the Utilization of Crop Wild Relatives (CWR) and Wild Food Plants (WFP) was prepared and published in July 2022. The

reports published within the context of the EC Horizon 2020 funded project (see Target 010) were also used to influence national CWR conservation and use policy in 2022.

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: A manual for a potential benefit-sharing mechanism for CWR that is associated with the adaptation of payment for ecosystem services (PES) to support CWR conservation and sustainable use was developed (Drucker *et al.* 2022, see Target 019). In Spain, the National Strategy for Conservation and Utilization of Crop Wild Relatives (CWR) and Wild Food Plants (WFP) was published on the 18th of November 2022. It can be accessed at: https://www.mapa.gob.es/es/agricultura/temas/medios-de-produccion/mapa_estrategiadeconservacion_04_tcm30-636650.pdf.

T-015 Establish a European regional network of CWR *in situ* conservation. (KSR 10)

Number of areas under management for the species or group of species: 0

Result description: European activities were mostly related to the EC Horizon 2020 funded project Farmer's Pride, which focused on the design and establishment of the European regional CWR *In Situ* network, amongst other elements. Despite the best efforts of the Farmer's Pride consortium, this goal was not achieved during the project lifetime (2018-2021) because the consortium could not find a European Agency willing to provide the governance structure necessary to secure the long-term sustainability of the Network. In 2022, the group actively lobbied agencies to take forward the Network.

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

Number of areas under management for the species or group of species: 20

Result description: The national Wild Celery network in Germany, initially established in 2019 with five reserves, included 20 genetic reserves by the end of 2022.

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: 5

Result description: In the Nordic CWR project, seeds from a number of globally nationally or regionally prioritized species were collected in 2022 (see Target 018). Of these, the following collected species are on the global priority CWR list (Vincent *et al.* 2013): *Allium schoenoprasum* (L.), *Daucus carota* (L.) subsp. *carota*, *Lactuca serriola* (L.), *Medicago sativa* (L.), and *Raphanus raphanistrum* (L.).

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

Number of threatened species benefiting from *ex situ* conservation action: 20

Result description: In the Nordic CWR project, seeds of CWR were collected in 2021 and 2022 for long-term conservation at NordGen, the Nordic Genetic Resource Centre (<https://www.nordgen.org/>), and made available to users. During 2022, collections were made in Denmark (eight accessions, six species), Finland (nine accessions, seven species), Iceland (three accessions, two species), Norway (nine accessions, seven species), Sweden (20 accessions, 20 species from Skåne; 10 accessions, four species from Norrbotten).

NETWORK

Capacity building

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

Phleum alpinum L., a close wild relative of timothy (*Phleum pratense* L.) which is a widely cultivated forage grass in the Nordic region; here pictured in Skaftafell, Iceland
Photo: Magnus Göransson



Number of people trained in conservation planning: 30

Result description: Four postgraduate and 26 undergraduate students from the University of Birmingham were trained in CWR conservation planning. Thirty-two participants from national agriculture research institutes were trained by ICARDA on agrobiodiversity conservation, namely on *in situ* and *ex situ* conservation of CWR, collecting, gap analysis, policies, etc.

T-004 Build capacity in red listing. (KSR 2)

Number of people trained in assessment tools: 3

Result description: Two postgraduate and one undergraduate student from the University of Birmingham were trained in red listing.

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: 2

Result description: In 2022, two new members integrated the CWRSG, one from Colombia and one from Nigeria.

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: 4

Result description: In 2022, members of the CWR specialist group facilitated the establishment of numerous links between relevant stakeholders to implement CWR conservation actions and documentation, mainly in selected African countries, selected countries of the Group of Latin America and the Caribbean (GRULAC), Iraq, Jordan, Lebanon, Syrian Arab Republic, at the European level and, locally in Færder, Norway. (1) In Cuba, Costa Rica, Guatemala, Jordan, Malawi, Spain,

Tanzania, and Zambia, various stakeholders were contacted in order to promote the development of national databases of CWR populations conserved *in situ*, within the context of the project 'Development of a list of globally agreed descriptors for the documentation of CWR conserved *in situ*', led by the FAO's International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) Secretariat. Dialogue between the stakeholders, from the plant genetic resources community, national conservation agencies, academia, etc., was initiated in order to improve the documentation of wild populations of CWR at the national level with the view of promoting the use of these resources. (2) Within the framework of the Benefit Sharing Fund project 'Strengthening national capacities and regional integration for efficient conservation of plant genetic resources in a post-conflict region', led by the International Centre for Agricultural Research in the Dry Areas (ICARDA), links amongst different partners and stakeholders were

established to carry out several activities which are summarized next: (a) Technical support to national gene banks in Lebanon and Syria for their conservation activity; (b) Joint botanical surveys for the long-term monitoring sites of CWR established in 2000 under the GEF *In situ* and on-farm conservation in West Asia project; (c) Joint collection missions under the supervision of ICARDA and collaboration between the Lebanese Agricultural Research Institute (LARI), Lebanese University, and local NGOs; (3) European activities driven by the EC Horizon 2020 funded project "Farmer's Pride" (<http://www.farmerspride.eu/>), which came to an end in 2021, focused on the design and establishment of the European regional PGR *In Situ* network, the most advanced element being the European regional CWR *In Situ* network. In 2022, synergies between the various project partners and relevant stakeholders towards the implementation of this European network were kept active. (4) In



Infographic chart at the entrance of one of the first CWR genetic reserves established in Spain, located in the Biosphere Reserve of Sierra del Rincón
Photo: M. Vega

Agriculture to Climate Change: A synopsis of coordinated national crop wild relative seed collecting programs across five continents'. *Plants* 11(14): 1840, <https://doi.org/10.3390/plants11141840>; (6) Magos Brehm, J. et al. (2022). 'Planning complementary conservation of crop wild relative diversity in southern Africa'. *Diversity and Distributions*. <https://doi.org/10.1111/ddi.13512>; (7) Matesanz, S. et al. (2022). 'Effects of parental drought on offspring fitness vary among populations of a crop wild relative'. *Proceedings of the Royal Society B*, 289:20220065. <https://doi.org/10.1098/rspb.2022.0065>; (8) Maxted, N. et al. (2022). 'Creating communities of practice for *in situ* PGRFA conservation: lessons learnt. Proceedings of the First International Multi-Stakeholder Symposium on Plant Genetic Resources for Food and Agriculture (PGRFA): Technical Consultation on *in situ* conservation and on-farm management of PGRFA'. Commission on Genetic Resources for Food and Agriculture, FAO; (9) Mokni, R.E. et al. (2022). 'A prioritised inventory of crop wild relatives and wild harvested plants of Tunisia'. *Genetic Resources and Crop Evolution* 69: 1787-1816; (10) Nduche, M. et al. (2022). '*In situ* and *ex situ* conservation gap analyses of West African priority crop wild relatives'. *Genetic Resources and Crop Evolution*. <https://doi.org/10.1007/s10722-022-01507-2>; (11) Rubio Teso, M.L. et al. (2022) 'Searching for abiotic tolerant and biotic stress resistant wild lentils for introgression breeding through predictive characterization'. *Frontiers in Plant Science* 13:817849. <https://doi.org/10.3389/fpls.2022.817849>; (12) Sacristán-Bajo, S. et al. (2022). 'Population origin determines the adaptive potential for the advancement of flowering onset in *Lupinus angustifolius* L. (Fabaceae)'. *Evolutionary Applications* <https://doi.org/10.1111/eva.13510>; (13) Vincent, H., Hole, D. and Maxted, N. (2022). 'Congruence between global CWR hotspots and biodiversity hotspots'. *Biological Conservation* 265: 109432.

Norway, the Nordic CWR project have identified the Færder National Park as an area of interest to actively conserve CWR. Crop wild relatives are recognized in the management plan of the Færder National Park, and there are ongoing discussions to formally establish the area as a genetic resource conservation area. The Nordic CWR network (<https://www.nordgen.org/en/projekts/crop-wild-relatives/>) provides support to the continued collaboration and dialogue between researchers, governmental institutions and national park management in Færder. The established collaboration has resulted in the additional funding of a local project, the development of information material and continuous dialogue about the implementation of conservation actions.

COMMUNICATE
Communication

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

Number of published papers: 13

Result description: The following 13

publications were published in 2022: (1) Civantos-Gómez, I., et al. (2022). 'Climate change conditions the selection of rust-resistant candidate wild lentil populations for *in situ* conservation'. *Frontiers in Plant Science* 13: 1010799. <https://doi.org/10.3389/fpls.2022.1010799>; (2) Cockel, C.P et al. (2022). 'The importance of conserving crop wild relatives in preparing agriculture for climate change'. *CABI Reviews*, <https://doi.org/10.1079/cabreviews202217031>; (3) Drucker, A.G. et al. (2022). 'Modelling the costs and benefits of breeding programmes using crop wild relatives reveals high potential returns'. Policy Brief no. 73. *Biodiversity International*, Rome (Italy). <https://cgspace.cgiar.org/handle/10568/120015>; (4) Drucker, A.G. et al. (2022). 'How To" manual for informing crop wild relative conservation and use benefit-sharing mechanism design and implementation: Payments direct support mechanism for *in situ* conservation'. *Biodiversity International*, Rome (Italy). <https://hdl.handle.net/10568/120096>; (5) Eastwood, R.J. et al. (2022). 'Adapting

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

CWR related websites maintained and updated: 5

Result description: In Germany, the wild celery network website is maintained and updated frequently (<https://netzwerk-wildsellerie.julius-kuehn.de/>). In Spain, two websites are maintained and updated regularly: the national website on CWR (https://www.mapa.gob.es/es/agricultura/temas/medios-de-produccion/semillas-y-plantas-de-vivero/fitogeneticos_agricultura_alimentacion/Estrategia_PSC_PSUA.aspx), and the website on the conservation of CWR in the Sierra del Rincón (<https://www.sierradelrincon.org/parientes-silvestres-cultivos/>). The Nordic CWR website (<http://www.nordgen.org/CWR>), maintained by NordGen, published several new plant portraits during 2022 (Spring Vetch, Alpine Timothy, Cock's-foot, Wild Radish, Alpine Meadow-grass, European Dewberry, and Bilberry, see at <https://www.nordgen.org/en/our-projects/plant-portraits/>) and made available a short film about CWR in general and the Nordic CWR project (see <https://www.nordgen.org/en/projekts/crop-wild-relatives/>). Moreover, a video about CWR in the Færder National Park was also made available (see https://www.youtube.com/watch?v=MaTXQ9aq_Ww). The website of the CWR Working Group of the European Cooperative Programme for Plant Genetic Resources (ECPGR) (<https://www.ecpgr.cgiar.org/working-groups/crop-wild-relatives/>) was maintained in 2022. And finally, the CWR Global Portal (<http://www.cropwildrelatives.org/>), supported by Bioversity International, was also maintained and updated under the Darwin Initiative-funded project "Bridging agriculture and environment: Southern Africa crop wild relative regional network" (2019-2022).

Scientific meetings

T-022 Organise webinars on CWR conservation. (KSR 12)

Number of scientific events organised: 2

Result description: Members of the Specialist Group co-organized –together with the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture– regional webinars on 'Documentation of Crop Wild Relatives Conserved *In Situ*'. These webinars were attended by around 45 participants from Costa Rica, Guatemala, Jordan, Malawi, Spain, Tanzania, and Zambia.

Acknowledgements

We thank the following organisations for providing resources or support in conservation planning, conservation implementation, policy enhancement and threat assessment: United Nations Food and Agriculture Organization, ITPGRFA, World Bank, Consultative Group on International Agricultural Research (particularly the Alliance of Biodiversity International and CIAT and ICARDA), Global Environment Facility, IUCN SSC, European Commission (including Horizon 2020 Framework Programme and DG SANTO), SADC Plant Genetic Resource Centre (SPGRC), SADC Secretariat, SADC Technical Committee, SADC Director, SADC Council of Ministers, European Parliament, European Cooperative Programme for Genetic Resources, Nordic Council of Ministers, REFORM–the INTRA-AFRICA Academic Mobility Scheme, Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid, national governments of Denmark, Finland, Germany (German Federal Ministry of Food and Agriculture), Iceland, Lithuania, Malawi, Norway, Spain, Sweden, Tanzania, United Kingdom (Darwin Initiative), Zambia, and the Royal Botanic Gardens, Kew, MAVA and Toyota Foundations, all partners participating in the projects referred in this report, including all Farmer's Pride ambassadors.

Summary of achievements

Total number of targets 2021–2025: 21

Geographic regions: 14 Global, 3 Africa, 6 Europe

Actions during 2022:

Assess: 1 (KSR 5)

Plan: 4 (KSR 8, 9)

Act: 5 (KSR 10)

Network: 4 (KSR 1, 2)

Communicate: 3 (KSR 12, 13)

Overall achievement 2021–2025:

