In situ CWRs in EURISCO
Minutes of the coordination meeting

15 December 2022, Thessaloniki, Greece

Present:
Alban Ibraliu (Albania)
Katya Uzundzhalieva (Bulgaria)
Veselina Masheva (Bulgaria)
Vojtěch Holubec (Czech Republic) – online
Imke Thormann (Germany)
Parthenopi Ralli (Greece)
Lorenzo Raggi (Italy)
Juozas Labokas (Lithuania)
Robbert van Treuren (The Netherlands)
Ana Maria Barata (Portugal)
Joana Magos Brehm (Portugal)
José Iriondo Alegría (Spain) – online
Nigel Maxted (UK)
Tamsyn Dawson (UK) – online
Lorenzo Maggioni (ECPGR Secretariat)
Stephan Weise (EURISCO) – online

Other observers from the CWR Working Group:
Sylvia Vogl (Austria)
Rene Aavola (Estonia)
Penelope Bebeli (Greece)
Agnese Gailite (Latvia)
Denise Dostatny (Poland)
Dan Sandru (Romania)
Sreten Terzić (Serbia)
Miroslava Hradlicová (Slovakia)
Erdinç Oğur (Türkiye)

Unable to attend:
Angelos Kyratzis (Cyprus)

All presentations are available at: https://www.ecpgr.cgiar.org/working-groups/crop-wild-relatives/ad-hoc-crop-wild-relatives-working-group-meeting-2022

Introduction
Following the ad hoc meeting of the ECPGR Working Group on Crop Wild Relatives (CWR), held from 13–15 December, partners of the German-funded project 'Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets' gathered for a coordination meeting to update on progress made by the partners and coordinate the next steps.

Principles for the inclusion of CWR data in EURISCO
The project coordinator, L. Maggioni, outlined the project background, objectives and planned activities, confirming that the first step, the production of the document *Principles for the inclusion of CWR data in EURISCO* ('Principles' in brief) had been completed under a consultancy covered by Theo van Hintum and José Iriondo. The document, agreed by the

project partners and the EURISCO Advisory Committee in May 2022, was explained in more detail by José Iriondo.
In the discussion that followed, it was clarified that EURISCO is using a taxonomic backbone that is referring to GRIN and the Mansfeld taxonomy. While data providers can use any preferred taxonomy, EURISCO is able to capture in each search all the synonyms that are listed by the above-mentioned reference taxonomies. It was remarked that the World Flora (http://www.worldfloraonline.org/) could be worth considering as an additional reference.
A suggestion was made that the European priority populations could be highlighted, once they are included in EURISCO. Considering that only a subsection of each country's National Inventory of CWR will enter EURISCO, it will be important to avoid confusion between different types of 'National inventory' and also to distinguish 'CWR Taxon National Inventory' from 'CWR Population National Inventory'.
It was also reiterated that the conservation of the populations and their availability will remain two separate concepts since some populations included in EURISCO will remain difficult to access. However, the possibility to open a dialogue with a clearly defined managing institution with regard to access, will be a feature to be guaranteed for each population included in EURISCO.
It was noted that the provision of descriptors for EURISCO should fulfill also the GLIS descriptor data collected by FAO, if an extended list is provided, i.e. not limited to the few mandatory descriptors for inclusion of data in EURISCO.
The current absence of descriptors for monitoring the populations was noted and this item was proposed as a possible future development.
A comment was made on the need to use unique identifiers (PUID Descriptor) for the CWR populations and the possibility to request DOI numbers to EURISCO was highlighted. The pre-requisite to obtaining the DOI number will be the prior inclusion of the given population and its passport data in the EURISCO database.
The opportunity to obtain a formal agreement of the ECPGR Steering Committee (SC) on the 'Principles' document was suggested and this item will be included in the agenda of the next SC meeting. Representatives of pilot countries presented their progress and plans (see online presentations for full details).

Partners' progress updates

A. Ibraliu (Albania) explained that a list of 500 taxa was selected among 86 priority CWR genera. A national database structure will soon be ready, with a list of prioritized descriptors. The definition of a network of data providers and the national focal point for data provision is being planned.

K. Uzundzhalieva (Bulgaria) outlined the planned methodology to provide EURISCO with population data. A Bulgarian database of population occurrences will be used to extract suitable data, which will be filtered and curated. Passport data of populations for which an *ex situ* sample has been deposited in the Bulgarian genebank will be sent to EURISCO.

V. Holubec (Czech Republic) indicated that a CWR strategy was published in 2017 in the Czech Republic, where 204 priority species have been defined and the most important areas for *in situ* CWR conservation identified. With the collaboration of crop curators from responsible partner National Programme institutions and the Agency for Nature and Landscape Conservation (AOPK, Ministry of Environment), a number of *in situ* populations that are candidates for inclusion in EURISCO have been selected. Written agreements with the owners of the populations will be a requirement to enable the inclusion of data in EURISCO. Negotiations are going on for target populations.

I. Thormann (Germany) confirmed that the CWR national inventory in Germany is at an advanced stage, genetic reserves have been established for wild celery and are under establishment for *Vitis silvestris*. These will be the populations for which data will be provided to EURISCO.

L. Raggi (Italy) informed that three institutions will collaborate in Italy for this pilot project, working on three different areas as exemplary cases, based on the advanced status of previous studies, i.e. *Vicia* spp. in Apulia and Basilicata regions, *Brassica* spp. in Central Italy and *Lactuca alpina* in Trentino Autonomous Province. The preparation of the national database structure with the definition of fields for which information will be supplied should be completed in May 2023. The organization of an initial network of data providers is planned for June 2023 and by the end of 2023, information on CWR accessions present in Italy and accessible through official contacts, thanks to specific agreements, will be made available in EURISCO.

J. Labokas (Lithuania) presented a summary of the prioritized Lithuanian CWR inventory and the potential genetic reserve sites for *in situ* conservation of CWR populations in Lithuania. Preparation of the national database structure has been completed and data from various sources are being compiled. Studies on the abundance and frequency of CWR species cover the entire country and its different climatic zones. One of the major tasks to be implemented until October 2023 is to organize the potential data providers into an operational network.

R. van Treuren (The Netherlands) informed the group about the inventory and prioritization for the conservation of CWR in the Netherlands. The main sources for data collection are the National Databank Flora & Fauna (NDFF) and the Floristic Research The Netherlands (FLORON). A website on crop wild relatives in the Netherlands is available at CWRnl.nl. Selection of populations for a CWR red list identified ca. 300 populations. Taxon-level information has been prepared for upload in EURISCO, while as a next step, population-level information will include the selected CWR red list populations and possibly other least concerned populations.

A.M Barata (Portugal) summarized information on past identification and collection of CWR in Portugal, with the examples of *Daucus carota* and *Aegilops*. High priority has recently been given to CWR *Daucus carota*, *Malus sylvestris*, *Medicago sativa* and *Pisum sativum*, while other priorities are *Lathyrus sylvestris* and *Lens nigricans*. A genetic reserve has been established for *Beta patula* in the Madeira islands. The next steps in this project will be the creation of the CWR National Inventory – an updated CWR checklist and the prioritization of CWR for *in situ* conservation.

J. Iriondo (Spain) explained that 521 priority CWR/WFP taxa have been selected from the very recently published *Spanish National Strategy for the Conservation and Use of Crop Wild Relatives and Wild Food Plants*. Data on population occurrences were derived from GBIF and these data have been filtered by quality of geographic coordinates. Population identifiers have been assigned. This exercise resulted in a dataset with ca. 2 million records. The identification of stakeholders for a network of collaborators and data providers generated 140 contacts, 45% of whom expressed willingness to collaborate. The national database structure is being prepared for both CWR population occurrence and populations selected for *in situ* conservation. Seventy-four descriptors have been selected out of those suggested in this project and with the addition of other GBIF descriptors. Preliminary data have been gathered for most descriptors corresponding to the taxon level, while population-level data were gathered from GBIF. Updating data for GENEPOOL and LEGSTATUS is ongoing. Future activities include GIS and complementarity analyses to select the 'most appropriate CWR populations'. For genetic reserves, information is being gathered on legally protected threatened CWR and candidate populations for *in situ* conservation. Further discussion will take place on the selection of records to be sent to EURISCO (e.g. populations of threatened CWR protected by law may not be sent). It will be made sure that the mandatory descriptors are completed for the selected records.

T. Dawson (UK) explained the methodology of data acquisition and filtering for the UK *in situ* CWR Inventory. Five million records were acquired from the National Biodiversity Network,

filtered to approximately 600,000 records covering 222 of the 223 UK priority taxa using a custom python script to allow nuanced filtering based on taxon life form, scarcity and number of records per taxa.

Multiple options for data upload were presented including (1) passively conserved records within protected areas, covering 165,935 records from 216 taxa (2) Top National Nature Reserves (NNRs) within England for CWR conservation, covering 4,834 records from 144 taxa (though the current list of top sites are not concrete and may change depending on discussions with Natural England) and (3) Taxa actively conserved in the Lizard genetic reserve, covering 697 records and 45 taxa (though not all taxa are on monitoring list). Besides the currently established genetic reserve, future active conservation sites are being discussed with Natural England.

Preliminary data analysis has been carried out, including richness, complementarity analysis, and richness by land cover. The parameters for filtering are currently being revised so the final dataset contents and selected NNRs are likely to change. In addition, the current Priority Inventory contains taxa at both the species and subspecies levels, however, most populations have only been recorded at the species level, resulting in a lower-than-expected number of records for certain subspecies. To address this, going forward, data will be re-collected and analyzed at only the species level. Thirty-two subspecies will be combined into 20 species, resulting in a revised Prioritized Inventory of 211 taxa.

Data have been gathered for most of the 28 descriptors agreed upon for EURISCO upload. Data for INSTCODE and INSTNAME could only be sourced for sites within NNRs. There is currently no data on ACCENUMB or MLSSTAT. The current liaison process and organizations for the UK are in review, but Royal Botanic Gardens Kew has been listed at present.

A few descriptors of note were highlighted. Interpretation of code 60 (*in situ* wild population) for the STORAGE descriptor, as opposed to the proposed wording 'in nature', was clarified in the discussion. Suggestions were made for the EURISCO *in situ* dataset, for future consideration. Another descriptor mentioned was POPSRC, status of occurrence site, as the current descriptors do not fully match up with UK land cover classes or EU BAP habitats. This would lead to a loss of precision from source data e.g. both calcareous grassland and acid grassland being listed as POPSRC 13 – grassland.

S. Weise (EURISCO) updated on the progress made in preparation of EURISCO, with a bioinformatician hired at IPK to carry out the extension of the EURISCO's database structure, develop import tools and procedures for data integrity checks and data integration, and extension of the EURISCO web interface according to user requirements. The first test upload is expected to be possible in the first half of 2023, while training will start in the second half. The excel file to be used by the pilot countries for upload has been prepared and was made available after the meeting from the ECPGR project website (link).

Next steps

The meeting was concluded with a summary of the next steps for the implementation of the project, which include:

- Circulation for comments of the 'Principles' document to the ECPGR Working Groups on Documentation and Information and on Wild Species in genetic reserves (task for the respective WG Chairs).
- Submission of the 'Principles' document to the ECPGR Steering Committee for endorsement, possibly to be achieved at the next SC meeting in June 2023.
- Appointment of specific *in situ* CWR documentation Focal Points, which will be ensured by the ECPGR Secretariat in the course of 2023.

- Completion of the pilot countries' preparation and delivery of *in situ* CWR data to EURISCO.
- Complete the preparation of EURISCO extension to *in situ* CWR data.
- Training of Focal Points in charge of transferring *in situ* CWR data to EURISCO, which will be carried out by the EURISCO Coordination in the second half of 2023. These will be online workshops or webinars, as far as possible. The EURISCO Coordination will also extend its permanent help desk function to facilitate the delivery of CWR data by the European countries to EURISCO.
- Public awareness products to publicize the extension of CWR in EURISCO, to encourage the population of the catalogue with appropriate CWR data. The ECPGR Secretariat will design, prepare and disseminate appropriate public awareness products (articles, flyers, poster).

It was also suggested to ensure the possibility for open reciprocal communication among the project partners, to exchange information and opinions, and raise questions related to the implementation. The ECPGR Secretariat will provide a mailing list to ensure this exchange.