



Ad hoc Crop Wild Relatives Working Group Meeting
13–15 December 2022, Thessaloniki, Greece

Extension of EURISCO for Crop Wild Relatives
(CWR) *in situ* data and preparation of pilot
countries' data sets: Spain

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Key deliverables

1. Identify populations from the CWR priority list of the National Strategy for CWR conservation (31/03/2023).
2. Identify key public and private institutions for the organization of a national network of data providers (31/12/2022).
3. Prepare a draft of the national database structure (30/09/2023).
4. Collect and organize available data according to the agreed principles and data exchange format (15/11/2023).
5. Provide the data to EURISCO (15/11/2023).

Working team

- Dolores Cuadra
- Carlos Lara
- Ada Molina
- María Luisa Rubio Teso
- Elena Torres



- Fernando Pomedá: 5 month contract (ECPGR)
- Guillermo Asens: 1 year contract (NextGenerationEU)
- Celia del Tío: Master's Thesis

1. Identify populations from the CWR priority list of the National Strategy for CWR and WFP conservation

- **521 priority CWR/WFP taxa** from the Spanish National Strategy for the Conservation and Use of Crop Wild Relatives and Wild Food Plants

(https://www.mapa.gob.es/images/es/estrategiaconservacionplantassilvestres_tcm30-544584.pdf)



Estrategia Nacional de Conservación y Utilización de Parientes Silvestres de los Cultivos (PSC) y Plantas Silvestres de Uso Alimentario (PSUA)

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1. Identify populations from the CWR priority list of the National Strategy for CWR conservation

- Taxonomical nomenclature: ‘Standard list’ used by Spanish administration based on Flora Iberica.
- 90% of taxa match with the accepted scientific name of GBIF taxonomic backbone.
 - Direct search in GBIF using the scientific name.
- 10% of taxa are considered ‘synonyms’ by GBIF.
 - In several cases Standard List taxa were made equivalent to a broader taxonomic concept (*i.e.*, SL species are considered subspecies of the accepted scientific name by GBIF).
 - Search using the scientific name of the ‘Standard list’

1. Identify populations from the CWR* priority list of the National Strategy for CWR conservation

- Downloaded records filtered by quality of geographic coordinates. Delete records:
 - without geographic coordinates
 - with serious geographic coordinate “issues”
 - with poor geographic accuracy (coordinates without decimals of degree)
 - from “iNaturalist”
 - associated to cultivation and/or botanical gardens
 - mismatches between coordinates and country
 - records of country centroids, capitals, equal latitude/longitude, biodiversity institutions and GBIF headquarters, and those falling on the sea.
 - populations with incompatible land uses (water bodies, perpetual ice, urban settings)
- Assignment of same POPID (population identifier) to records with the same coordinates and within a 500m radius buffer.

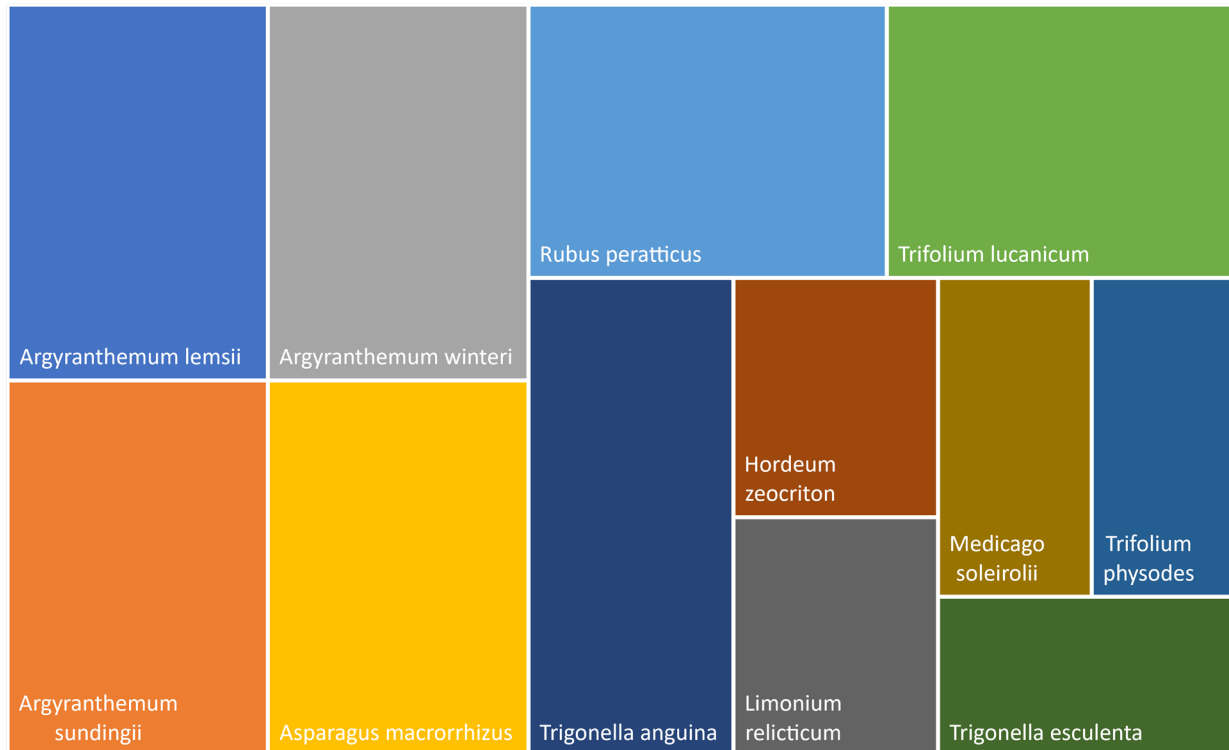
1. Identify populations from the CWR priority list of the National Strategy for CWR conservation

Final dataset of distribution of priority CWR populations:

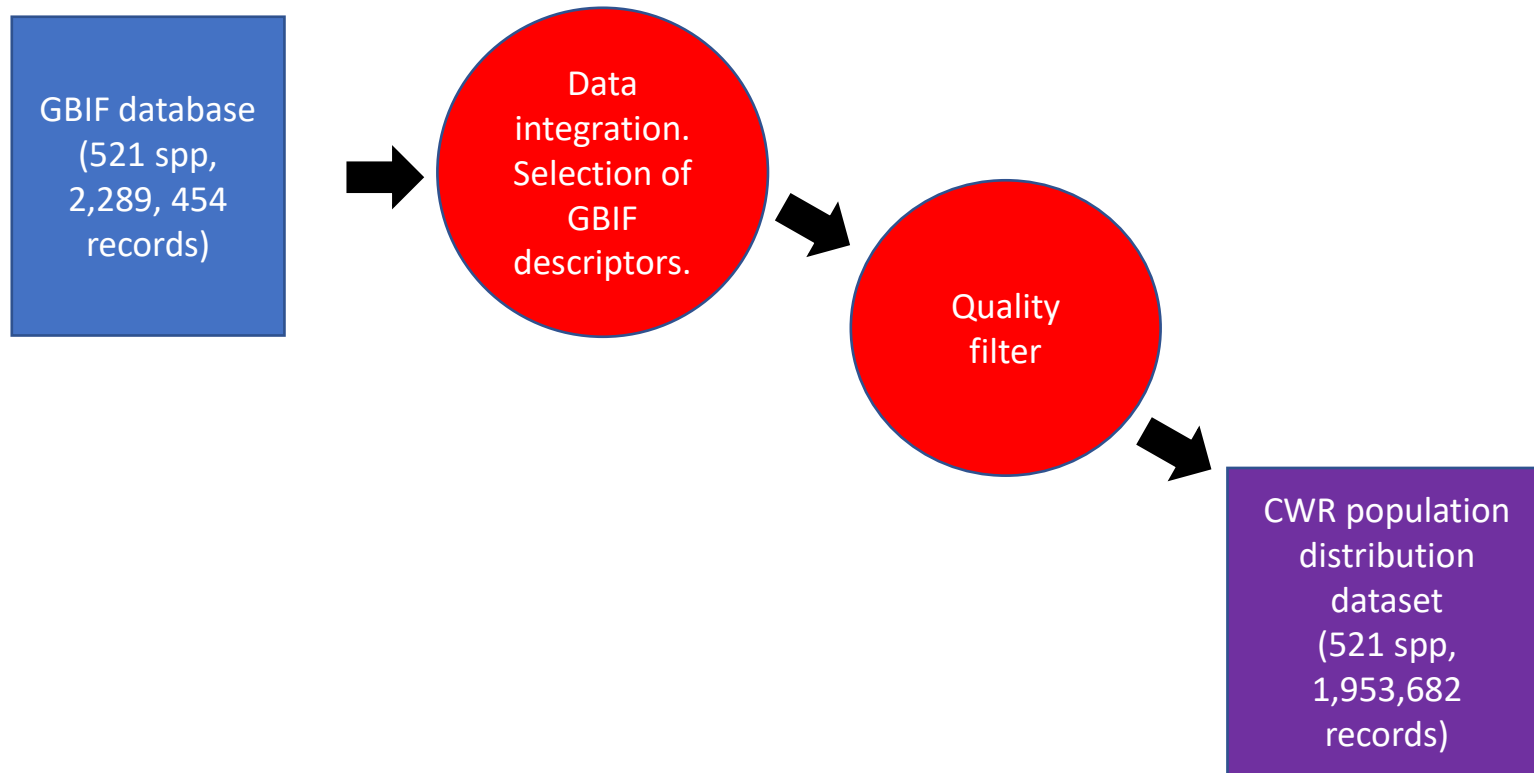
- 1,953,682 records including all 521 target species
- 632,210 populations
- Median number of populations per species: 291
- 25% of species have less than 66 populations
- 25% of species have more than 1135 populations

1. Identify populations from the CWR priority list of the National Strategy for CWR conservation

Species with just one or two populations



1. Identify populations from the CWR priority list of the National Strategy for CWR conservation



2. Identify key public and private institutions for the organization of a national network of data providers

- Identification of stakeholders for a network of collaborators and data providers:
 - Ministry for Ecological Transition
 - National Parks Autonomous Agency
 - Ministry of Agriculture
 - Wildlife, agriculture and environmental education departments of 17 autonomous communities
 - NGO's
- Contacts checked by telephone and/or email to confirm willingness to collaborate.
- 140 contacts. 45% expressed willingness to collaborate.

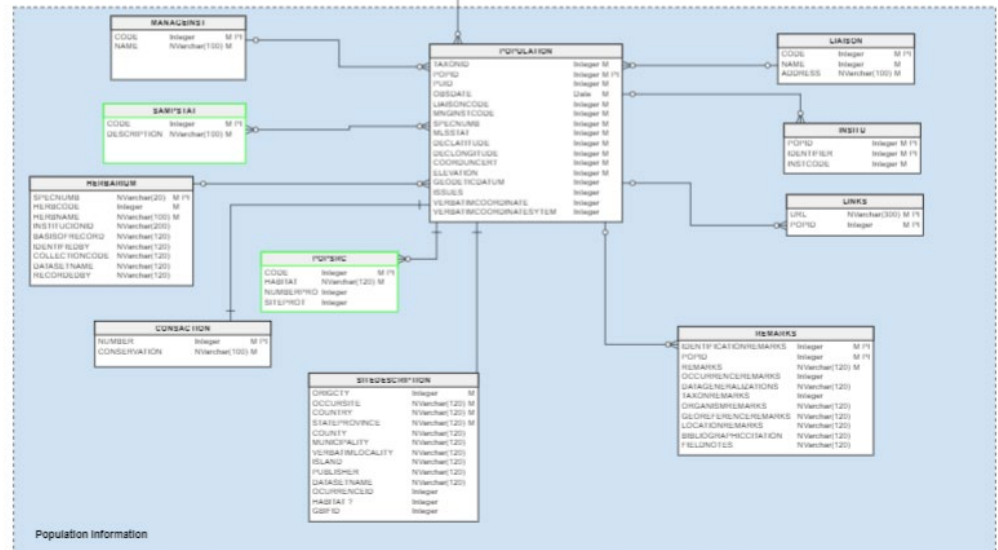
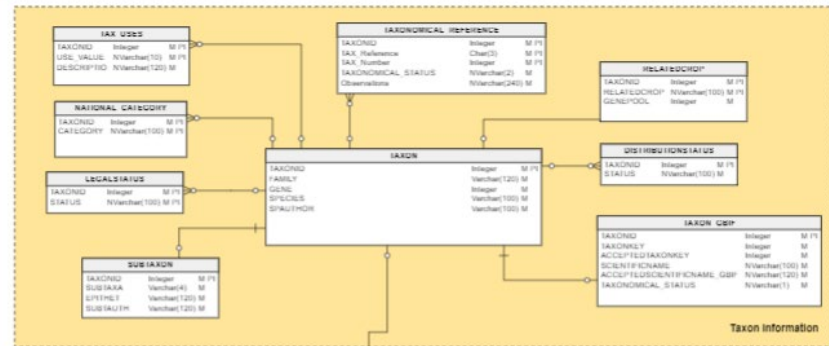
3. Prepare a draft of the national database structure

Database that includes both CWR population occurrence and populations selected for *in situ* conservation:

- 74 descriptors
 - 37 of 40 descriptors of Annexes I & II (subtaxon descriptors and REMARKS not included)
 - 37 additional fields from GBIF records

3. Prepare a draft of the national database structure

- Relationships among the 74 descriptors are being defined to determine the database structure



3. Prepare a draft of the national database structure

- Review the database according to the FAIR principles
- Elaborate a data management plan
- Testing implementation in MongoDB
 - NoSQL, schemaless (flexible structure), document database
 - Used to build highly scalable internet applications
 - Can work with JSON (text-based data exchange format)

4. Collect and organize available data according to the agreed principles and data exchange format

Activities performed :

- Preliminary data gathered for most descriptors corresponding to the taxon-level
- Population-level data gathered from GBIF

Ongoing:

- Updating data for GENEPOOL and LEGSTATUS

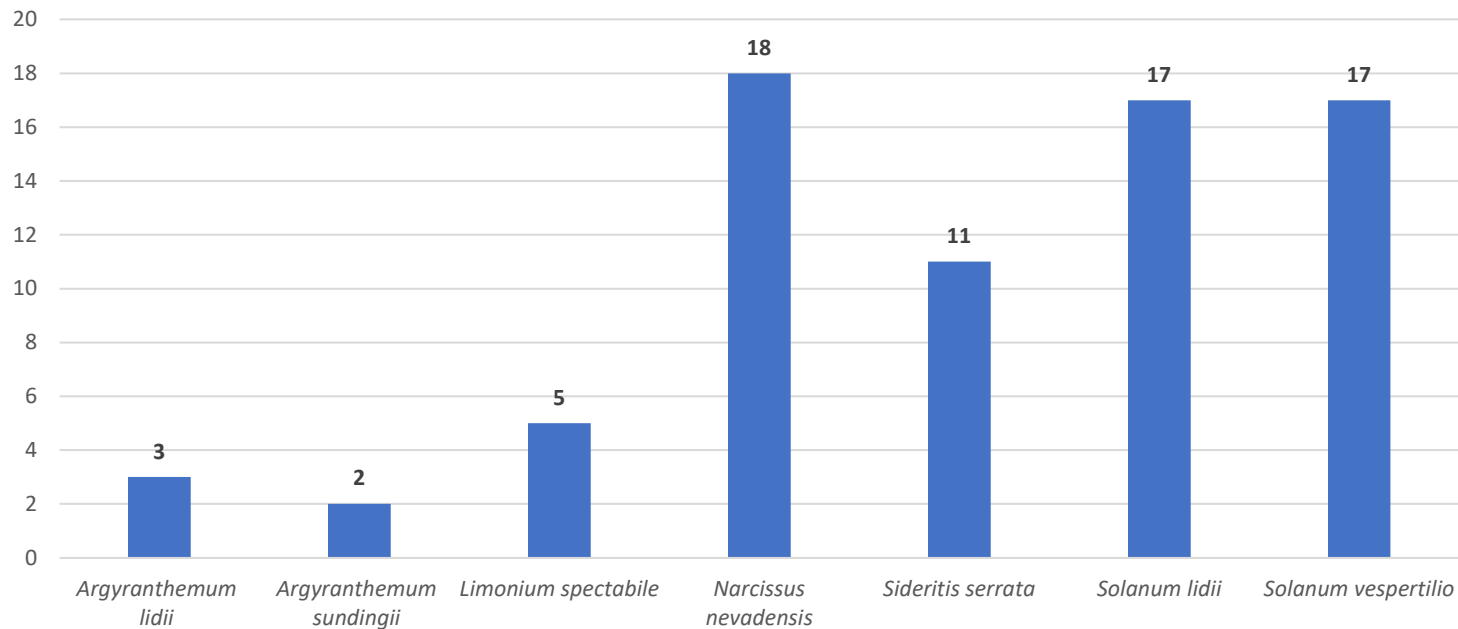
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Future activities:

- GIS and complementarity analyses to select 'most appropriate CWR populations'.
- For genetic reserves, legally protected threatened CWR and candidate populations for *in situ* conservation:
 - Complete information about **NICODE**, **MNGINSTCODE**, PUID, SAMPSTAT, POPSRC, SITEPROT, CONSACTION, MLSSTAT, MNGINSTNAME, LIAISONCODE, LIAISONNAME, OTHERNUMB, HERBCODE, HERBNAME, SPECNUMB, LINKS.

4. Collect and organize available data according to the agreed principles and data exchange format

Populations of protected species with the highest level of legal protection at the country level



5. Provide the data to EURISCO

- Further discussion on the selection of records to be sent to EURISCO
e.g., populations of threatened CWR protected by law may not be sent.
- Make sure that the mandatory descriptors are completed for selected records.