S. Weise



# Taking stock of the new EURISCO extension for in situ CWR data

How to use it, how to improve it

In situ Crop Wild Relatives in EURISCO Project Meeting, 18–19 June 2024, Sadovo, Bulgaria







- *In situ* CWR populations are potentially valuable resources for both science and breeding
  - $\rightarrow$ Need to be conserved
  - $\rightarrow$ Need to be made available
- However:
  - Conservation of and access to CWR populations varies significantly
    - Nature conservation organisations
    - Farmer's fields
    - Roadsides
    - Not managed at all
  - Information about CWR populations often not available at all



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- Only ex situ data in EURISCO so far
- In situ extension desired for a long time
- Previous activities of the *in situ* community
  - Checklists and descriptors for *in situ* CWR conservation
  - Descriptors for in situ LR inventories
  - ECPGR concepts for *in situ* CWR and on-farm conservation

**Core descriptors for Crop wild relative** Bioversity checklist and inventory Bioversity descriptors v.1 **ECPGR** Concept for in situ conservation ECP G of crop wild relatives in Europe ECPGR Concept laxted, Alvina Avagyan, Lothar Frese, José Iriond Vlagos Brehm, Alon Singer and Shelagh Kell for on-farm conservation and nanagement of plant genetic Endorsed by the ECPGR Steering Committee in March 201 resources for food and agriculture anization of the dorsed by the ECPGR Steering Committee in January 201 RIPTORS FOR WEB-ENABL DESCRIPTORS FOR SITU LANDRACE INVEN **Crop Wild Relatives** Negri, N. Maxted, R. Torricelli, M. Heinonen, M. Vetelainen, S. Dia conserved in situ UNIVERSITY OF MITTO

- Technical concept for extension of EURISCO for in situ data developed in Farmer's Pride project (in situ CWR + on-farm LR)
- Necessary prerequisite: exchange and regular update of data
  - Rather uncritical for *in situ* CWR
  - Large logistical effort for on-farm LR
    - $\rightarrow$  For the time being, focus on *in situ* CWR data





- ECPGR project "Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets" (CWR data in EURISCO)
  - Funded by the German Federal Ministry of Food and Agriculture
  - Definition of principles of data inclusion in EURISCO (T. van Hintum/J. Iriondo) → approved by project partners + EURISCO AC
  - Implementation of data integration + extension of public web interface  $\rightarrow$  10/2022 12/2023
  - Pilot countries to provide their data and test the system

European Crooperative Programme Genetic	Federal Ministry of Food and Agriculture
ECP/GR	

#### Principles for the Inclusion of CWR Data in EURISCO

Prepared by Theo van Hintum and José friando, within the framework of the ECPCR project Extension of EURISCO for Crop Wild Relatives (CWR) in situ data and preparation of pilot countries' data sets (CWR data in EURISCO), Indied by the German Federal Ministry of Food and Agriculture.

Agreed by project partners and EURISCO Advisory Committee in May 2022

#### ntroduction

Populations of crop wild relatives (CWR)<sup>1</sup> occurring *in situ* are potentially valuable resources for crop science and plant breading. Therefore, they need to be conserved and made available to users. However, the current conservation of , and access to these CWR populations varies strongly. In situ conservation of CWRs is often in the hands of nature conservation organizations, who are sometimes not even avare that they are manging these resources. Other CWR populations occur in farmers fields, roadsides and other locations, where they are not managed at all. Furthermore, information about the CWR populations, their occurrece and availability, is hardly available.

The issue of CWRs has recently received much attention, e.g. from EU-funded projects such as Farmer's Pride and from the international Treaty on Plant Genetic Resources for Food and Agriculture (IPGRFA). The latter coordinated and led the publication of a descriptor 1ist for CWRs conserved in situ (Alarcia et al., 2021). For ECPGR and its database EURISCO, the issue of properly handling information about *in situ* CWRs has been on the table for a while, but for various reasons never resulted in substantial improvements.

In Europe, depending on the country, information about CWRs is heterogeneous: sometimes it is scattered over various sources or not available tall, whereas in some other European countries national checklists of CWRs, priority lists, population occurrence records and *er. situ* and *in situ* conservation assessments are available (e.g. Maxted et al., 2007; Smekalova, 2008; Phillips et al., 2014; Landucci et al., 2014; Labokas et al., 2018; Taylor et al., 2017; Rubit Dese tel. 2018; van Treuren et al. 2017). In some cases, specific websites have been created to showcase CWR in a country, providing information about the occurrence, distribution, availability and other data (such as <u>https://www.cwml.nlwenCWRnh-1.htm</u> with information about CWRs occurring in the Netherlands). This heterogeneity of cases is one of the reasons why it is difficult for users (plant breeders and crop scientists) to find out about ad access these resources.

To improve the situation this proposal aims at

 Supporting the development of CWR National Inventories providing information on the CWR taxa and occurrence of CWR populations, their conservation status and their availability.

2- Feeding EURISCO with information on CWR populations that are - in principle - available

The approach suggested in this proposal is based on various documents such as the Concept for a possible extension of EURSCO for in situ crep wild relative and on-farm landmace data (Weise et al. 2020), the Descriptors for Crop Wild Relatives conserved in situ (Alercia et al. 2021), and on discussions held in various platforms. It also relies on previous publications on CWR descriptors, such as those of Thormann et al. (2017) and Bioversity International & University of Birmingham (2017), It presents an approach that will hopefully result in the desired outcome: a) properly organized information about CWRs occurring in a country, arranged in an *in situ* CWR National Inventory, and by Information in EURISCO about CWR populations occurring *in situ* and potentially accessible for use. However, success will depend on the willingness of the Europen countries to create these National Inventories for CWRs and

<sup>1</sup> This document is focused on CWR, however, most of the approaches proposed here can also be applied to wild food plants.



# What do we have?





#### **National Inventories for CWR**

- Identification of CWRs of interest/development of checklist of priority crops
- Development of database structure for information about management and use of CWR-NI
  - In principle up to each country
  - Recommendations of descriptors for the generation of CWR-NI
    - Information at taxon level (e.g. gene pool information, threat status, protection status, ...)
    - Information at population level (descriptors of population site, population descriptors, population management descriptors



#### Recommendations by T. van Hintum/J. Iriondo

#### Comparison Anaparative Second Federal Ministry of Food and Agriculture Principles for the Inclusion of CWR Data in EURISCO pared by Theo van Hintum and José Iriondo, within the framework of the ECPGR project 'Exter URISCO for Crop Wild Relatives (CWR) in situ data and preparation of pilot countries' data R data in EURISCO), funded by the German Federal Ministry of Food and Agriculture. Agreed by project partners and EURISCO Advisory Committee in May 2022 ives (CWR)<sup>1</sup> occurring in situ are pot ations of crop wild rela nce and plant breeding. Therefore, they need to be conserved and made available to user ervation of, and access to these CWR populations varies strongly. In sit vation of CWRs is often in the hands of nature cor hat they are managing these resources. Other CWR populations occur in farmers' fie ther locations, where they are not managed at all. Furthermore, information about and from the International Treaty on Plant Genetic Resources for Food and Agriculti PGRFA). The latter coordinated and led the publication of a descriptor list for CWRs conserv (Alercia et al., 2021). For ECPGR and its database EURISCO, the issue of properly har Europe depending on the country information about CWRs is he cklists of CWRs, priority lists, population occurrence records and ex situ and in situ essments are available (e.g. Maxted et al., 2007; Smekalova, 2008; Phillips et al., 2014; Landuco 2014; Labokas et al., 2018; Taylor et al., 2017; Rubio Teso et al. 2018; van Treuren et al. 2017). To improve the situation this proposal aims at: Supporting the development of CWR National Inventories providing inform of CWR populations, their conservation status and their availability. eeding EURISCO with information on CWR populations that are - in principle - available e approach suggested in this proposal is based on various documents such as the Concent for sible extension of EURISCO for in situ crop wild relative and on-farm landrace data (Weise (0), the Descriptors for Crop Wild Relatives conserved in situ (Alercia et al. 2021), and on discus various platforms. It also relies on previous publications on CWR descriptors, such as those of ann et al. (2017) and Bioversity International & University of Birmingham (2017). It presents an coach that will hopefully result in the desired outcome: a) properly organized information about CWR urring in a country, arranged in an *in situ* CWR National Inventory, and b) information in EURISCO It CWR populations occurring in situ and potentially accessible for use. However, success ind on the willingness of the European countries to create these National Inventories for CWRs (

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### Data flow from CWR-NI to EURISCO



- Actively conserved populations
  - Focus on populations that can be made available to users in principle
  - Probably those that are "actively conserved"
    - Likely to exist
    - Location is known
    - Management institution/person that can be approached to access the material
- Access to in situ material
  - There should be a designated pathway to approach managing/liaison institute
    - Get information about how to obtain material
    - Get information about terms and conditions
- What information can be shared with EURISCO?
  - Local decision
    - Which populations should be made visible?
    - Which data should be shared?

#### Descriptors for uploading in situ CWR passport data



- Compilation of EURISCO in situ CWR passport data standard
  - Mapping of CWR information on current EURISCO structure
  - CWR population considered similar to an ex situ accession
    - Population ID like the accession number
    - New concept: institute for liaison between potential user and managing organisation
    - Other EURISCO descriptors can be used for *in situ* CWR data
       → slightly wider interpretation
    - Additional status terms for some of the descriptors
  - 28 descriptors
  - Standard description + Excel template available
  - Versions
    - v1, 2022-11-02
    - v1.1, 2024-01-04 (after receiving feedback from data providers)



#### Descriptors for uploading *in situ* CWR passport data to EURISCO

2024-01-04

#### 1 Introduction

This descriptor list describes the data exchange format for uploading passport data from the National Inventories for *in situ* CWR to EURISCO.

The descriptors in this list are a selection from those of the *ex situ* format for upload, with the addition of a few. In case the descriptor name or description is deviating from the *ex situ* upload format, this is indicated in the description.

A significant departure from the *ex situ* data exchange format is the concept of an *in situ* CWR population being an accession. As a result, the population identifiers becomes the ACCENUMB in EURISCO, and the managing institute code and name the INSTODE/INSTMAKE, respectively.

The mandatory fields are, similarly to the ex situ upload format, NICODE, INSTCODE, ACCENUMB and GENUS. The combination of these fields has to be unique.

#### 2 General formatting rules

The general formatting rules that apply to the *ex situ* data also apply to the *in situ* data:

- If a field allows multiple values, these values should be separated by a semicolon (;) without space (e.g. Accession name: Symphony;Emma;Songino).
- A field for which no value is available should be left empty (e.g. Elevation). If data are exchanged in ASCII format, a field with a missing numeric value should be left empty. If data are exchanged in a database format, missing numeric values should be represented by generic NULL values.
- Dates are recorded as YYYYMMDD. If the month or day is missing, this should be indicated with hyphens or '00' (double zero). If both (month and day) are missing, two double zeros are needed (e.g. 19750000; 197506--, 19750600).
- Country names: Three-letter ISO codes are used for countries. The ISO 3166-1 standard country or area codes are available online at: <a href="https://unstats.un.org/unsd/methodology/m49/">https://unstats.un.org/unsd/methodology/m49/</a>. Note: The list of obsolete codes can be found at: <a href="http://en.wikipedia.org/wiki/ISO 3166-1 alpha-3#Reserved">http://en.wikipedia.org/wiki/ISO 3166-1 alpha-3#Reserved</a> code elements.
- For institutes, the codes from FAO WIEWS should be used. The current set of institute codes is available from the FAO WIEWS site (<u>http://www.fao.org/wiews</u>).
- If new institute codes are required, they can be generated online by FAO National Focal Points (http://www.fao.org/agriculture/crops/thematic-sitemap/theme/seedspgr/gap/national-focal-points/en/) or they can be requested from: WIEWS@fao.org.
- <u>pgr/pgr/nationariocal-points/enr/</u> or they can be requested from: Wie/Wee/acab. In case no FAO WIEWS code of the institution responsible for, and/or organization that manages the CWR population is available and cannot be generated, the code ('DUMMY') can be used.
- For institutes that no longer exist, or that were not assigned a FAO WIEWS institute code, please provide full details in the descriptors INSTNAME and LIAISONNAME, respectively.

### **Descriptors deviating from MCPD**



Descriptor	Description
PUID	Persistent unique identifier (PUID)
	Persistent, unique identifier (preferably a DOI) assigned to the accession to unambiguously reference it at the global level.
	NOTE: Should be assigned only to those CWR populations that the National Focal Point considers as long-term available sources of germplasm (e.g. the population is being monitored and potentially available under the terms of the MLS).
INSTNAME	Institute name
	Name and short address of the organisation managing the CWR population (e.g. protected area authority, nature reserve manager, national park manager, private landowner, etc.). This descriptor should be used only if INSTCODE has the value ('DUMMY') because the FAO WIEWS code for this institute is not available.
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.
ACCENUMB	Accession number (  population ID)
	Unique identifier for CWR populations maintained in situ. Assigned by the organisation managing the population.
LIAISONCODE	Liaison institute code
	FAO WIEWS code of the institution that can liaise between the organisation managing the CWR population and the interested user.
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.
LIAISONNAME	Liaison institute name
	Name and brief address of the liaison institution in the case that no FAO WIEWS code exists.
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.



Descriptor	Description
SUBTAXA	Subtaxon
	Subtaxon can be used to store any additional taxonomic identifier. The following abbreviations are allowed: 'subsp.' (for subspecies); 'var.' (for variety); 'f.' (for form).
	NOTE: The description was slightly modified as cultivar groups cannot occur in CWR populations.
ACQDATE	Observation date [YYYYMMDD]
	The most recent date the population was observed, where YYYY is the year, MM is the month and DD is the day. Missing data (MM or DD) should be indicated with hyphens or '00' [double zero].
	NOTE: The name and description of this descriptor have been changed to apply to CWR in situ.
ORIGCTY	Country of occurrence
	Three-letter ISO 3166-1 code of the country where the CWR population was observed or inventoried.
	NOTE: The name and description of this descriptor have been changed to apply to CWR in situ.
COLLSITE	Location of occurrence site
	Location information below the country level where the population sample was observed. This might include the distance in km and direction from the nearest town, village or map grid reference point (e.g. 7km east of Wageningen in the province of Gelderland).
	NOTE: The name and description of this descriptor have been changed to apply to CWR in situ.



Descriptor	Description
DECLATITUDE	Latitude of occurrence site
	Latitude expressed in decimal degrees. Positive values are north of the Equator; negative values are south of the Equator (e.g44.6975).
	NOTE: The name of this descriptor has been changed to apply to CWR <i>in situ</i> . The accuracy of this information that is going to be disseminated may be adjusted as considered appropriate by each country.
DECLONGITUDE	Longitude of occurrence site
	Longitude expressed in decimal degrees. Positive values are east of the Greenwich Meridian; negative values are west of the Greenwich Meridian (e.g. +120.9123).
	NOTE: The name of this descriptor has been changed to apply to CWR <i>in situ</i> . The accuracy of this information that is going to be disseminated may be adjusted as considered appropriate by each country.
COORDUNCERT	Coordinate uncertainty [m]
	Uncertainty associated with the coordinates in metres. Leave the value empty if the uncertainty is unknown. Can also be used to indicate the size of the distribution area of the CWR.
	NOTE: The description of this descriptor has been changed to apply to CWR <i>in situ</i> . The coordinate uncertainty should be adjusted if the accuracy of the geographic coordinates is reduced.



Descriptor	Description
POPSRC	Status of occurrence site
	Habitat of the occurrence site of the population(s).
	The coding scheme can be applied either by using the general codes or the more specific codes. Multiple values are separated by a semicolon without space.
	10: Wild
	11: Forest or woodland, 12: Shrubland, 13: Grassland, 14: Desert or tundra, 15: Aquatic habitat
	20: Farm or cultivated area
	21: Field, 22: Orchard, 23: Backyard, kitchen or home garden, 24: Fallow land, 25: Pasture, 28: Park
	60: Weedy, disturbed or ruderal habitat
	61: Roadside, 62: Field margin
	99: Other (elaborate in REMARKS field)
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.



Descriptor	Description
SITEPROT	Site protection
	Indicate whether the site is protected under any legal or official protection. Multiple values are separated by a semicolon without space.
	0: Not protected
	1: Strict nature reserve
	2: Wilderness area
	3: National park
	4: Natural monument or feature
	5: Habitat/species management area
	6: Protected landscape/seascape
	7: Protected area with sustainable use of natural resources.
	8: Other effective conservation measures (OECM)
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.



Descriptor	Description
CONSACTION	Conservation actions in place
	Indication whether conservation actions related to the population are in place. Use the IUCN classification scheme for conservation actions in place. Multiple values are separated by a semicolon without space.
	0: No conservation actions
	1: Monitoring and planning
	2: Land/water protection and management
	3: Species management
	4: Education and legislation
	99: Other (elaborate in REMARKS field)
	NOTE: This descriptor is new and did not occur in the EURISCO format yet.
SAMPSTAT	Biological status of accession
	The coding scheme proposed can be used at two different levels of detail: either by using the general codes (in boldface) such as 100, 200, or by using the more specific codes such as 110, 120, etc.
	100: Wild
	110: Natural
	120: Semi-natural/wild
	130: Semi-natural/sown
	200: Weedy
	999: Other (Elaborate in REMARKS field)
	NOTE: The description of this descriptor has changed (less allowed values).



Descriptor	Description					
STORAGE	Type of germplasm storage					
	For <i>in situ</i> CWR populations, this descriptor should always have the value 60.					
	60: <i>in situ</i> wild population					
	NOTE: Status 60 is a new status!					
MLSSTAT	MLS status of the accession					
	The status of the <i>in situ</i> accession of the CWR population with regard to the Multilateral System of Access and Benefit-Sharing (MLS) of the International Treaty, if available.					
	0: Not available under the MLS					
	1: Available under the MLS					
ACCEURL	Accession URL					
	URL linking to additional data about the population.					
	Example: http://gbis.ipk-gatersleben.de/gbis_i/detail.jsf?akzessionId=31805					
	NOTE: This description deviates from the ex situ upload format.					

#### **Database schema extension**

 Extension of the database schema to capture the new data
 → done



#### Import tool for in situ CWR data

- Import component for *in situ* National Inventory Focal Points
  - Interface separated from *ex situ* data upload, but same design
  - Upload via the EURISCO in situ intranet
  - Upload by in situ Focal Point
  - Pure web-based upload of data
    - No third-party software needed
    - No specific firewall settings needed
  - Possibility of incremental updates





#### Import tool for in situ CWR data - cont.



- Preparation of data file
  - Use the EURISCO in situ CWR data standard

< CWR

Home

- Use a MS Excel (.xlsx) file, descriptor names as column headings
- File upload
  - Login
  - Expand navigation menu
  - Open "Passport data import"
  - Click on "Upload file"
  - Select file to be uploaded
  - Select validation profile
  - Enter notification email address
  - Start the upload





#### Data integrity checks and data integration

- Implemented as PL/SQL procedures and functions running in the background
- Check results shown in the EURISCO *in situ* CWR intranet

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### Data integrity checks and data integration – final decision

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							accesssions listed in your file will National Inventory in EURISCO, w	I be updated. All other accessions of y hich are not covered by the input file,	will		1 - 3
							The final update will run as a batch	job in the background.			
							Discard data 🛛	Update EURISCO data			

#### **Data integrity checks and data integration – next steps**



- Updated dataset will be applied to EURISCO stage schema
- EURISCO stage will be synchronised to the EURISCO web schema (time lag!)
  - Not in main business hours
  - Rebuild of materialised views
  - Creation of new full dump (MS Access + CSV)
  - News message on EURISCO webpage



#### Public web interface

- Integrated in the standard search
- Additional *in situ* search
- Accession details pages extended

00 Home	Home \ In situ CWR search \				
R Passport data ~ Standard searches (ex situ) > In situ CWR search	In the frame of the project "Extension of situ CWR data. Some of the pilot countr This search mask allows simple filtering.	f EURISCO for Crop V ies involved in the pro	Vild Relatives (CWR) in situ d oject have already provided po e search functionalities for in a	Jata and preparation of pilot count roduction data on <i>in situ</i> CWR por <i>situ</i> CWR data will be available in	tries pulat 1 2024 = CPCR Finding seeds for the future
Index of common names Index of taxa DOI search	National Inventory Select National Inventory (leave empty Genus	r for all)			Bome & Durck search & Persport data \           National Inventory code BGR           National Inventory name Bulgaria           Institute code         BGR001 (Contact details on FAO-WIEWS website)
Search on map	Select genus (leave empty for all) Species				E     Institute name     Institute for Plant Genetic Resources 'K.Malkov', Sadovo, Plovdiv district, Bulgaria       Accession number     2023-MEN-LO-1       Country of origin     BGR (Bulgaria)       MLS status     not part of the MLS
✓ Export data > ✓ Statistics & documents >	Select species (leave empty for all)				AEGIS status unknown Genus Mentha Species longifolia
About >	Reset 🟷 Apply Filters 🧭				Image: Species authority         (L) Huds.           Biological status         100 (Wild)           Acquisition date         2023-08-21           Germplasm storage         60 (In situ wild population)
<ul> <li>Newsletter subscription</li> <li>Intranet ex situ</li> </ul>	AEGIS status Yes	Q×		Go Actions ∨	Latitude 413920N Congitude 0244129E i Elevation (m) 1564 i Collections the Reprocessor Sympletic
i Intranet in situ CWR	No Unknown	1 - 5 C&E data	Holding institute	Accession number	In situ CWR accession         yes           Occurrence site         Wild           Site protection         wildemess area
Data protection policy	MLS status Yes No	×	BGR001 BGR001	2023-MEN-LO-1 2008-MEN-LO-1	Conservation action Monitoring and Planning Download Last undate of accession record: 2023-12-14
	C&E data exists?	× × × 1-5	BGR001 BGR001 BGR001	1990-MEN-LO-1 2000-MEN-LO-1 2007-MEN-LO-1	
	In situ CWR accs.?				мово Смолян Смолян Ардино Катаданан Кърджали
	Biological status Wild Traditional cultivar/landrace				
	Biological status Wild Traditional cultivar/landrace Origin country Bulgaria France Russian Federation				





#### • 3035 populations from seven countries

Country	Maintaining institute	Liaison institute	# of populations	total
Albania	National Agency of Protected Areas, Tirana, Albania	Plant Genetic Resources Center, Tirana, Albania	610	610
Bulgaria	Institute for Plant Genetic Resources 'K.Malkov', Sadovo, Plovdiv district, Bulgaria		20	20
Cyprus	Department of Environment, Nicosia, Cyprus	National (CYPARI) Genebank, Agricultural Research Institute, Ministry of Agriculture, Rural Development and Environment, Nicosia, Cyprus	95	391
Cyprus	Department of Forests, Ministry of Agriculture, Rural Development and Environment, Nicosia, Cyprus	National (CYPARI) Genebank, Agricultural Research Institute, Ministry of Agriculture, Rural Development and Environment, Nicosia, Cyprus	251	
Cyprus	Fauna and Wild Services, Ministry of the Interior 1453, Nicosia	National (CYPARI) Genebank, Agricultural Research Institute, Ministry of Agriculture, Rural Development and Environment, Nicosia, Cyprus	45	
Germany	Federal Research Centre for Cultivated Plants - Institute of Fruit Breeding, Dresden, Germany	Information and Coordination Centre for Biological Diversity (IBV), Bonn, Germany	66	66
Spain	Área de Vías Pecuarias, Comunidad de Madrid	Área de Promoción y Educación Ambiental, Comunidad de Madrid	14	24
Spain	Ayuntamiento de la Hiruela	Área de Promoción y Educación Ambiental, Comunidad de Madrid	2	
Spain	Propiedad privada	Área de Promoción y Educación Ambiental, Comunidad de Madrid	8	
Italy	Parco Naturale Adamello Brenta, Strembo (TN), Italy	CREA-Centro di Ricerca Foreste e Legno - Sede di Trento, Trento loc. Villazzano, Italy	1	12
Italy	Parco Nazionale della Maiella, Guardiagrele (CH), Italy	Dipartimento di Chimica, Biologia e Biotecnologie, Universitá degli Studi Perugia, Perugia Italy	a, 1	
Italy	Costa merlata, Puglia	Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche, Bari, Italy	1	
Italy	Parco Naturale Regionale Costa Otranto - S. Maria Leuca - Bosco Tricase, Andrano (LE), Italy	Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche, Bari, Italy	3	
Italy	Parco Nazionale Alta Murgia, Gravina in Puglia (BA), Italy	Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche, Bari, Italy	3	
Italy	Parco Nazionale dell'Appennino Lucano Val d'Agri - Lagonegrese, Marsiconuovo (PZ), Italy	Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche, Bari, Italy	1	
Italy	Zona Speciale di Conservazione Bosco Difesa Grande, Gravina in Puglia (BA), Italy	Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche, Bari, Italy	2	
Netherlands	Undisclosed material holder	Centre for Genetic Resources, the Netherlands, Wageningen, Netherlands	1912	1912
				3035

### Summary



- Descriptors for uploading in situ CWR passport data
- Upload to EURISCO
  - By an authorised CWR Focal Point (can be the ex situ NFP or another)
  - In situ CWR data separated from ex situ data
- Database schema extension
- Development of import tool for in situ CWR data
- Development of procedures for data integrity checks and data integration
- Web interface extension according to user requirements

other)		done
nd		
nts	>	partially



# What do we need?

#### EURISCO backend for *in situ* CWR passport data



• Incorporate users feedback into the continuous further development

#### Public web interface extension



- Implementation of a dedicated search page
  - $\rightarrow$  to specifically offer the *in situ* CWR descriptors as search criteria
- Revision of the statistics section on the EURISCO page
   → separation into *ex situ*, *in situ* and total
- Additional use cases
  - Carry out a survey
  - Evaluate use cases with regard to feasibility
  - Implementation
- Download
  - Development of a functionality that enables the download of all details of a group of populations as a result of a search
  - Implement a separate feature for an in situ full-dump

### **Unique identifiers**



• To be discussed tomorrow