



Joint PGR Secure/ECPGR workshop
Conservation strategies for European crop wild relative
and landrace diversity



THE CWR CATALOGUE FOR EUROPE AND THE MEDITERRANEAN

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7–9 September 2011



UNIVERSITY OF
BIRMINGHAM



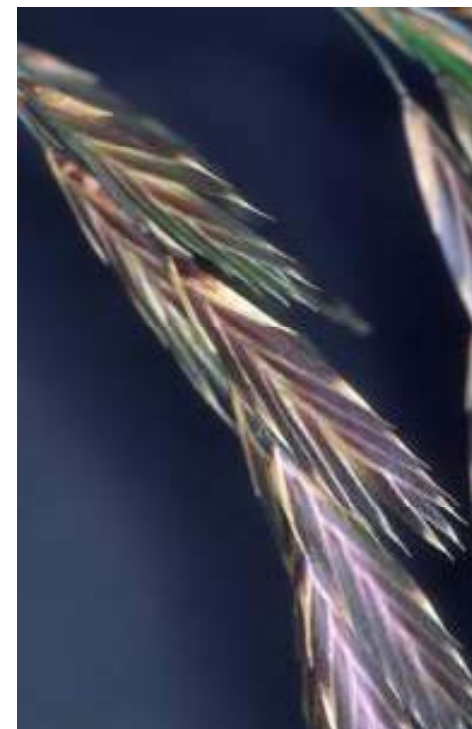
OVERVIEW

- How the CWR Catalogue for Europe and the Mediterranean was created
- Examples of its use
- Modification and updating



INTRODUCTION TO THE CWR CATALOGUE

- Created in the context of the EU-funded **PGR Forum** project in response to the need for baseline data on CWR in Europe
- The Catalogue was created using a **systematic approach** that can accommodate changes in nomenclature and status and can be applied at both regional and national level in any region



www.pgrforum.org

CWR CATALOGUE: DATA SOURCES

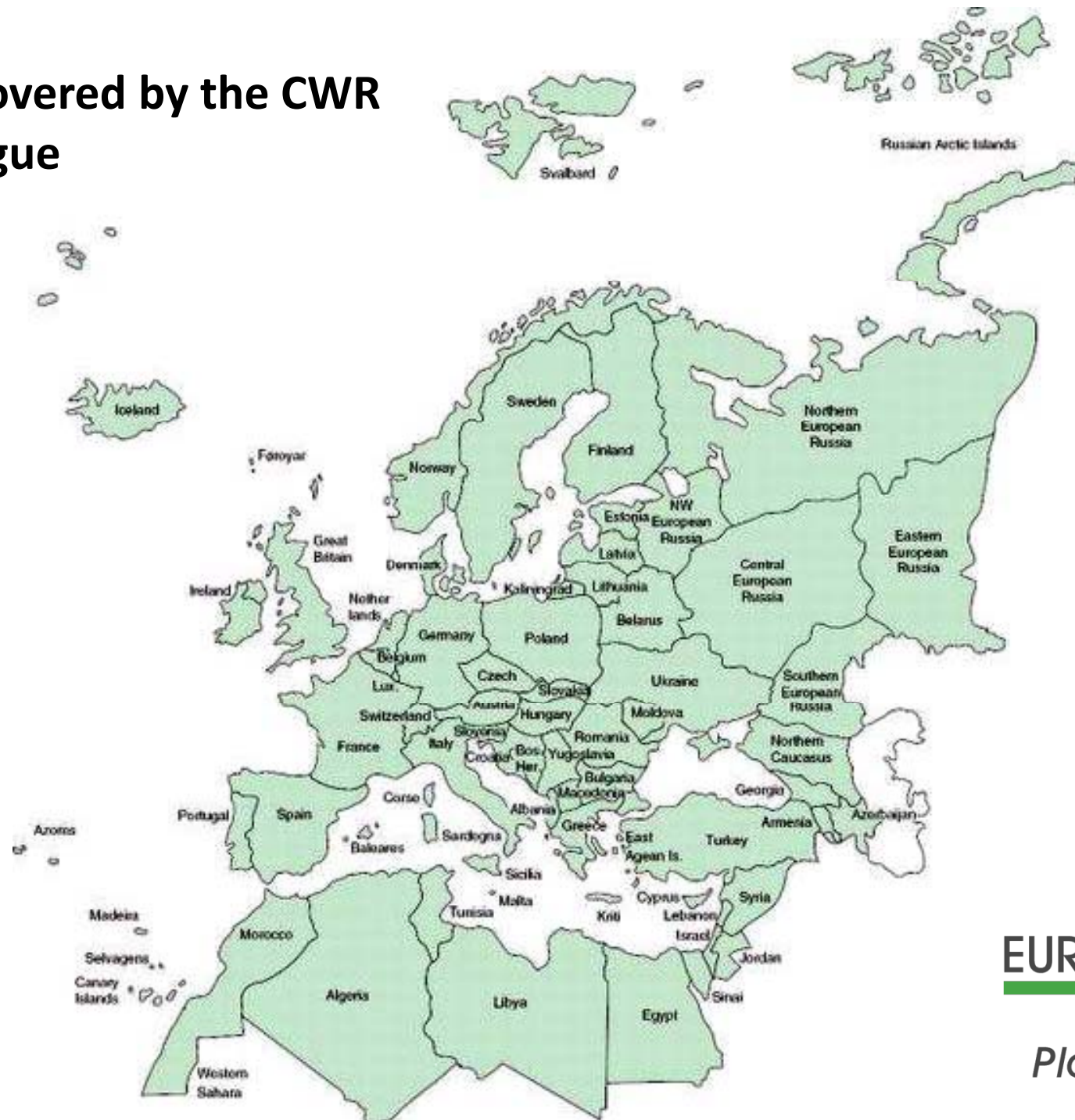
- **Euro+Med PlantBase (Version January 2006)** (www.emplantbase.org)
- **Mansfeld's World Database of Agricultural and Horticultural Crops** (<http://mansfeld.ipk-gatersleben.de>; Hanelt and IPK, 2001)
- **Forestry:** Schultze-Motel (1966) (*Enumeration of cultivated forest plant species*)
- **Ornamentals:** Community Plant Variety Office list of licensed plant varieties in Europe (Kwakkenbos, 2003, pers. comm.)
- **Medicinal and aromatic plants:** Medicinal and Aromatic Plant Resources of the World (MAPROW) (Shippmann, 2004, pers. comm.)

EURO+MED PLANTBASE CONTENT



- An on-line database and information system for the **vascular plants of Europe and the Mediterranean** region
- Contains **names and distribution data** (occurrence in countries or sub-national units) from *Flora Europaea*, the MedChecklist, the Flora of Macaronesia dataset and published Floras from the Euro-Mediterranean region
- Specialists from over 50 countries and territories within the region have contributed to the revision of the taxonomic status of all taxa contained in the database

Area covered by the CWR Catalogue



EURO+MED PLANTBASE DATA FILTERING

For each taxon, Euro+Med PlantBase records:

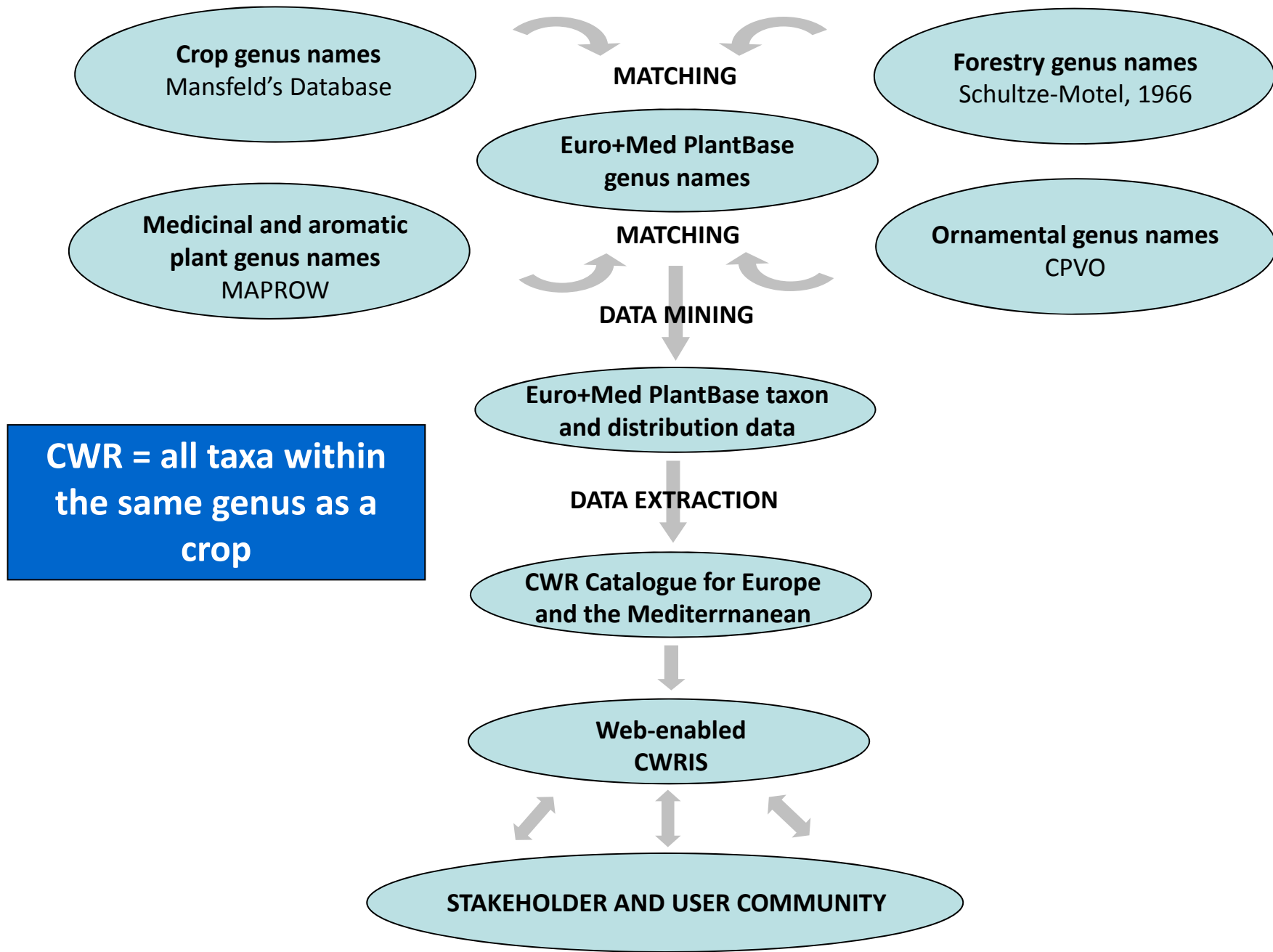
- Geographical unit of occurrence
- Status
 - Native
 - Introduced
 - Cultivated
 - Status unknown
- Whether record of distribution is known to be complete



EURO+MED PLANTBASE DATA FILTERING

Geographic occurrence records are coded:

- **P – Present**
- **S – Assumed present**
- **D – Doubt about presence**
- **E – Extinct**
- **F – Recorded as present in error**
- **A – Absent**



CWR CATALOGUE: SUMMARY STATISTICS

All species (crops and CWR)

Data output	No. of records		
	Families	Genera	Species
Euro-Mediterranean flora	218	2,437	30,983
Agricultural and horticultural	166	1,109	23,513
Forestry	57	143	2,843
Ornamental	90	230	7,499
Medicinal + aromatic	146	618	19,784
Crops and CWR of Europe and the Mediterranean	183	1,239	25,687

CWR CATALOGUE: DATA ANALYSIS

Crops and CWR of Europe and the Mediterranean



- c. 80% of the Euro-Mediterranean flora consists of crops and their wild relatives; in other words, **> ¾ of plant species in the region have a current or potential direct use to humankind**
- 90% are **native** to the region
- 58% are **endemic** to the region
- 49% of genera containing crops worldwide are found in the Euro-Mediterranean region
- 10% of the **agricultural, horticultural and forestry** species in the Catalogue can be considered as **crops**, and the remaining 90% as CWR

CWR CATALOGUE: DATA ANALYSIS

Major food crops

- 22 of the 28 major food crop genera of the world occur in the Euro-Mediterranean region—15 (54%) of these encompassing wild relatives
- 219 species and 100 subspecific taxa within these major food crop genera can be found growing in the region
- 106 species are known to be cultivated worldwide and at least 44 species and 24 subspecies are recorded by Euro+Med PlantBase as being cultivated in the region
- Four of the 38 major food crop species of the world are native to the Euro-Mediterranean region: cereals – *H. vulgare* L. (barley) and *T. aestivum* L. (wheat); leaf vegetables – *B. oleracea* L. (cabbage); and oil crops – *O. europaea* L. (olive)



CWR CATALOGUE: DATA ANALYSIS

Minor food crops

- 39 of the 51 minor food crop genera of the world occur in the Euro-Mediterranean region
- 938 species and 372 subspecific taxa within these major food crop genera can be found growing in the region



- 382 species and 46 subspecies are endemic and at least 99 species and 41 subspecies are endemic to only one nation
- 23 of the 69 minor food crop species of the world are native to the Euro-Mediterranean region

CWR CATALOGUE: DATA ANALYSIS

CWR in existing conservation initiatives

- **2006 IUCN Red List of Threatened Species:** 223 CWR species, including only one wild relative of a major food crop and only 19 of minor food crops—all but one of these (*Allium rouyi*) being tree species (more known to be published in the 1997 Red List which used the pre-2001 IUCN Red List Categories and Criteria + European CWR Red List in preparation)
- **2011:** a further 188 CWR endemic to Europe have been published as a result of the European Red List of Vascular Plants initiative

CWR CATALOGUE: DATA ANALYSIS

CWR in existing conservation initiatives cont'd

- **EU Habitats Directive:** 69% of the 641 species listed in the annexes of the HD are CWR—however, this only accounts for **3% of CWR flora of the Euro-Mediterranean region** because the species listed in the annexes of the HD only account for c. 3% of the flora of the region; only four out of 153 wild relatives of major food crops included
- **Important Plant Areas** (natural or semi-natural sites exhibiting exceptional botanical richness and/or supporting an outstanding assemblage of rare, threatened and/or endemic plant species and/or vegetation of high botanical value): 51% of the vascular plant species included in IPAs are CWR, but this only accounts for 5% of the CWR of Europe
- **Botanic garden living collections:** 39% of the crop and CWR flora of the region can be found in cultivation in botanic gardens (data from Plant Search)

HOW CAN THE CWR CATALOGUE BE USED?

- **Publicize** the breadth of taxonomic CWR diversity in the region
- Form the basis of **national CWR inventories**
- Inform **conservation planning** and **integration of CWR** with existing conservation initiatives
- Provide the backbone for access to **conservation and use data**, including demographic, genetic and genomic information
- **Promote use** of conserved European CWR diversity by plant breeders, scientists and other user communities



CWR CATALOGUE V 4.0

- Revised Euro+Med PlantBase data
- Revised list of crop genera
 - Remove MAPROW genera
 - Increase ornamental genera
 - Refined list (John Wiersema)?
- Inclusion of extinct records



Acknowledgements

- **Co-researchers:** Helmut Knüpffer, Stephen Jury
- **Provision of data:** Helmut Knüpffer, Norbert Biermann (IPK, Germany); Stephen Jury, Tarik el Atechi (University of Reading, UK); Werner Greuter, Anton Günsh, Eckhard Raub-Straube (BGBM, Germany); Ton Kwakkenbos (CPVO, France); Uwe Shipmann (BfN, Bonn); Dominique Richard, Doug Evans, Grégoire Loïs (ETC-BD, France); Elizabeth Radford (Plantlife International, UK); Craig Hilton-Taylor, Caroline Pollock (IUCN Red List Programme, UK)
- **Photos:** Emilio Laguna, Kai Henriksen, Kerstin Olsson, László Udvardy, José Iriondo, Joana Magos Brehm, Annie Lane, Andreas Katsiosis