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AUTHOR OF THE REPORT	Domenico De Paola (IBBR-CNR) Valeria Negri (DSA3-UNIPG) Lorenzo Raggi (DSA3-UNIPG) Pietro Fusani (CREA-FL) Petra Engel (CREA-UDG4)
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ABSTRACT	Italy was included in the project "Extension of EURISCO for Crop Wild Relatives (CWR) <i>in situ</i> data and preparation of pilot countries' data sets". In the framework of this project, a list of priority taxa and related populations were identified, to be monitored and assessed in terms of conservation status. Information were collected and organized according to the guidelines of the EURISCO database. The project partners identified and contacted the relevant institutions to facilitate access to the CWR material.
KEYWORDS	Country/region: Italy Crop(s): <i>Brassica</i> , <i>Cynara</i> , <i>Hordeum</i> , <i>Lactuca</i> , <i>Malus</i> , <i>Secale</i> , <i>Triticum</i> and <i>Vicia</i> Subject: Extension of EURISCO for Crop Wild Relatives (CWR) <i>in situ</i> data and preparation of pilot countries' data sets: Italy

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

Authors: Domenico De Paola¹, Valeria Negri², Lorenzo Raggi², Pietro Fusani³, Petra Engel⁴.

1) Istituto di Bioscienze e Biorisorse, Consiglio Nazionale delle Ricerche (CNR-IBBR), Bari (Italy).

2) Dipartimento di Scienze Agrarie, Alimentari e Ambientali, Università degli Studi di Perugia (DSA3-UNIPG), Perugia (Italy).

3) Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Centro di ricerca Foreste e Legno (CREA-FL), Trento (Italy).

4) Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, Ufficio Affari istituzionali e relazioni internazionali (CREA-UDG4), Roma (Italy).

A crop wild relative (CWR) is defined as a wild plant taxon that has an indirect use derived from its, relatively close, genetic relationship to a crop defined either on the “Gene Pool” from Harlan and Wet (1971) or on the “Taxon Group” Maxted et al. (2006) concept. According to the former, a CWR is any species included in the primary or secondary Gene Pool of a crop while, according to the latter, any species belonging to the same genus of any crop. Being a precious source of genetic variability and of traits potentially useful for crop improvement, CWR have a high socio-economic value and are identified among the main PGR.

To generate national and international conservation plans, the first step is to create and maintain updated dedicated inventories of species. These inventories serve as the basis for an analysis of their patterns of distribution, consistency and conservation status, level of threat, current conservation actions and identification of priority sites in need of conservation (Maxted et al., 2007). A new prioritized list of wild plants of socio-economic interest for Italy has been recently drawn up by Ciancaleoni et al. (2021), see Annex A. Prioritization was made using a pragmatic approach based on species value, native status and need of protection and/or monitoring. Once the high-priority species have been defined, it is important to examine the distribution of their populations across the territory. Unfortunately, geographic distribution of species is often available only at a coarse geographic scale (*e.g.* occurrence or not at administrative regional level) as also emphasized by Orsenigo et al. (2021), while a precise information on punctual occurrence, sites location, and census of CWR populations need to be retrieved for the implementation of effective conservation activities.

Materials and Methods

The work is focused on the different CWR species belonging to the genera *Brassica*, *Cynara*, *Malus*, *Triticum* and *Vicia* that are considered of priority at European and global levels. All the georeferenced occurrence data of populations of CWR species belonging to these genera available in the Global Biodiversity Information Facility (GBIF) and Genesys databases were retrieved. *Secale montanum* was also considered due to the presence of known populations in a protected area and some previous contacts with the protected area manager. This study was also extended to *Lactuca alpina* (L.) A.Gray, sin. *Cicerbita alpina* (L.) Wallr. (Asteraceae), which was reported in the complete prioritized list of CWR taxa reported by Landucci et al. (2014). In the North-Eastern regions of Italy the edible shoots of *L.alpina* are traditionally consumed as a delicacy, and in recent years they reached a commercial value. Some efforts for the domestication of the species have been made (Scartezzini et al., 2012), nevertheless the main source of raw material is still represented by the harvesting in the wild. Despite it is listed as “Least concern” in the European Red List of Vascular Plants (Bilz et al., 2011) and in the online version of IUCN Red List (<https://www.iucnredlist.org/species/172278/6863106>), some concerns exist for a possible endangering of the species in the collection sites, thus leading the local authorities of the Province of Trento, Italy, to regulate its harvest in the wild. Moreover, the interest in this species is due to its possible use in breeding (Dorè et al., 1996; Van der Veken et al., 2019).

GBIF is an international network and data infrastructure funded by the world's governments aimed at providing open access to chorological data of all types of life on Earth that includes data from genebanks, botanic gardens, museums, and universities. Genesys is a database holding information on *ex situ* accessions conserved in genebanks worldwide; it is also fed by numerous national and international data providers.

Retrieved data were initially checked for crop nomenclature consistency and Latin names were homogenised. Different filters were then applied to create a high-quality dataset as in Rubio Teso and colleagues (2020). The following classes were removed: i) cultivated materials; ii) not recorded in Italy; iii) with missing or low-quality geographical coordinates (i.e. ≤ 2 decimal digits or stated error > 500 meters); iv) dated before 1950 and, v) duplicates, keeping those more recent and with more available information. GBIF records with major known issue (i.e. invalid basis of record, fuzzy institution match, country coordinate mismatch) and coming from unreliable or unqualified sources (i.e. iNaturalist) were also deleted.

Data were imported into QGIS software specifying the same geographic reference system and definition of national border as described above. Filtered data were organised in a database: "In situ database" including the records from GBIF and Genesys; as for the latter database, its inclusion is motivated by the fact that *ex situ* conserved accessions come from *in situ* populations. The status 'inside' or 'outside' protected areas was tested using the geospatial vector of Natura 2000 Network retrieved from the European Environment Agency web site (updated to March 2020) that accounts for delineations used in the Habitats Directive (92/43 / EEC) and for those of the EMERALD Network set up under the 'Convention on the Conservation of European Wildlife and Natural Habitats' (i.e., Bern Convention) (Council of Europe, 1979) and the 'VI Official List of Protected Natural Areas' (EUAP), that includes different categories of National, Regional and Interregional protected areas.

Another tool to investigate the presence of CWR populations *in situ* was the analysis of the Mediterranean Germplasm Database (MGD), the reference database for the Mediterranean Germplasm Genebank held by CNR. The MGD database was reviewed for the presence of material useful to the project to determine the location where it was collected and the acquisition date. In addition, data on the presence of CWR were collected from a literature review (Landucci et al. 2014; Magrini et al. 2016) and from the results of research projects involving Italian partners in previous years.

With regard to *Lactuca alpina* (L.) A. Gray, data on the presence of the species in the Italian territory have been searched in the already mentioned databases, that is GBIF, Genesys and MGD. Data retrieved from these databases were first checked for nomenclature consistency and then filtered with the aim to remove unreliable records: see in the results paragraph for further details. Furthermore, due to the specific aim of the study on *L. alpina*, which was mainly focused on the distribution of the species within the territory of the province of Trento, data on the distribution of the species were asked to the Museo Civico di Rovereto (<https://www.fondazionemcr.it/>), where the Floral Cartography of the Province of Trento is being developed since 1991 (Prosser *et al.*, 2019). Finally, data recorded during several years of research activity carried out by the Trento headquarters of the Research Centre for Forestry and Wood (CREA-FL) were taken into consideration (Fusani *et al.*, 2010; Scartezzini *et al.*, 2012).

Results

Data on *in situ* occurrence of population in the Italian territory were successfully retrieved from GBIF and Genesys for 16 taxa of those listed in Ciancaleoni et al. 2021 for the corresponding genera (i.e. *Brassica*, *Cynara*, *Malus*, *Triticum* and *Vicia*) and for 1 species of the genus *Secale* for a total of 224 populations (Table 1).

Table 1. List of the 17 analysed taxa listed according to the alphabetic order. For each taxa the total number of *in situ* occurrences and of *in situ* occurrences located within protected areas are reported

Species	Total number	Number within protected areas
<i>Brassica glabrescens</i>	1	0
<i>Brassica insularis</i>	64	30
<i>Brassica macrocarpa</i>	10	9
<i>Brassica montana</i>	70	43
<i>Brassica procumbens</i>	4	3
<i>Brassica rupestris hispida</i>	2	1
<i>Brassica souliei amplexicaulis</i>	2	2
<i>Brassica villosa drepanensis</i>	12	2
<i>Cynara cardunculus flavescens</i>	1	0
<i>Malus crescimannoi</i>	1	0
<i>Secale montanum</i> *	25	19
<i>Triticum uniaristatum</i>	4	3
<i>Vicia cusnae</i>	2	1
<i>Vicia dalmatica</i>	1	0
<i>Vicia giacominiiana</i>	1	0
<i>Vicia sparsiflora</i>	4	2
<i>Vicia tenuifolia elegans</i>	20	14
Total	224	129

*Not listed in Ciancaleoni et al. 2021.

According to the results of the GIS analysis, recorded populations are distributed in a quite inhomogeneous way throughout the national territory (Figure 1). They are predominantly present in southern Italy, especially in Sardinia (64 populations) and Sicily islands (58); a relatively high number of populations is also recorded in Liguria (51) and Tuscany (36).

Among the 224 populations recorded, 129, mainly belonging to *Brassica* species, occur in one or more different Italian as well as European Protected Areas that correspond to approximately 50 % of the total (Figure 1).

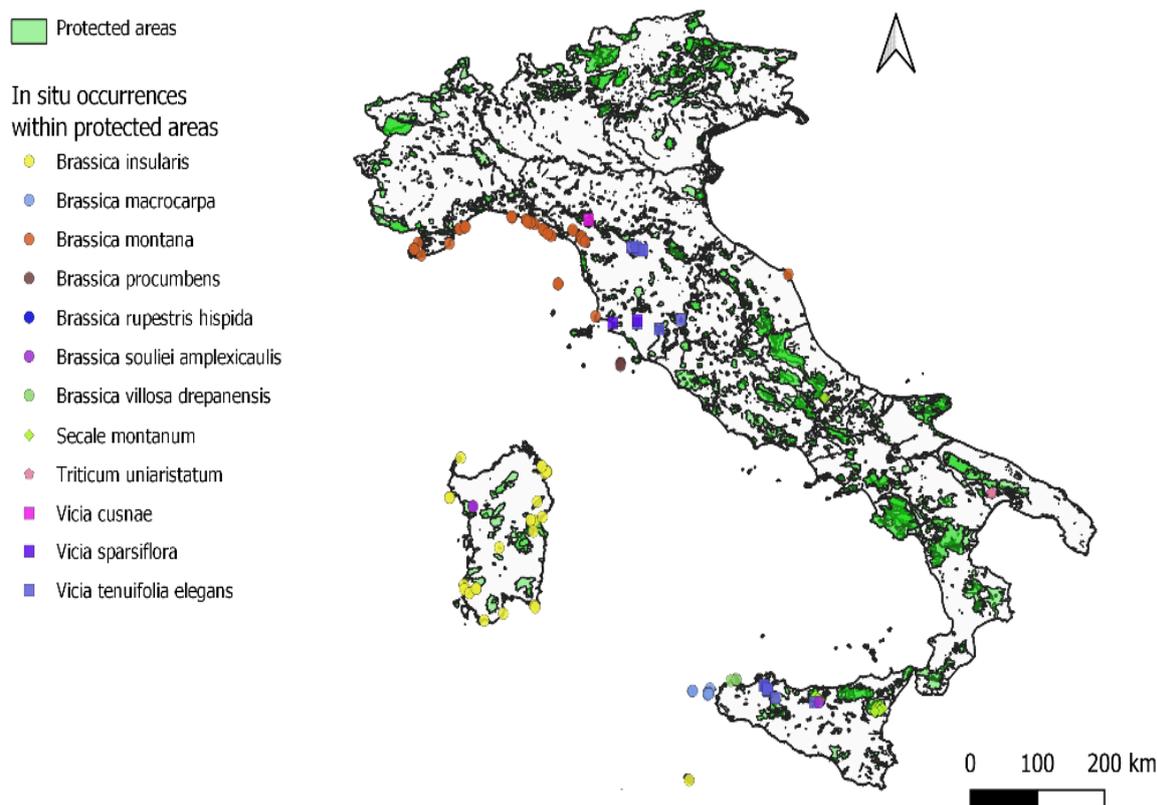


Figure 1. Distribution across Italy of the 129 populations occurring in protected areas. Species are highlighted using different colours as reported in the figure legend.

In addition to the data on *in situ* populations of 17 taxa listed in Table 1, further information on 6 taxa, distributed in Apulia and Basilicata (5 sites), were identified based on data from MGD website, in the literature and through direct observations by the project partners.

Three taxa, *Vicia giacominiiana*, *Vicia serinica*, and *Triticum uniaristatum*, are listed in Annex A. *Triticum biunciale*, *Triticum ventricosum*, and *Hordeum bulbosum* were selected because they occur in the territory of the Apulia region and are part of the gene pool of important crop species. The choice of sites fell preferably on national and regional parks or Natura 2000 sites and monitoring was carried out in order to confirm the presence of populations *in situ* and to verify the geographical coordinates of the references (Figure 2).

The monitoring activities allowed us to detect the presence of CWR populations of the six taxa mentioned above in the Apulia and Basilicata region. Some of these populations have already been recorded in the past, up to twenty years ago, and the current conservation status allows us to hypothesize that these CWR will still be present in the coming years, even if they are located outside protected areas (e.g. on public land).

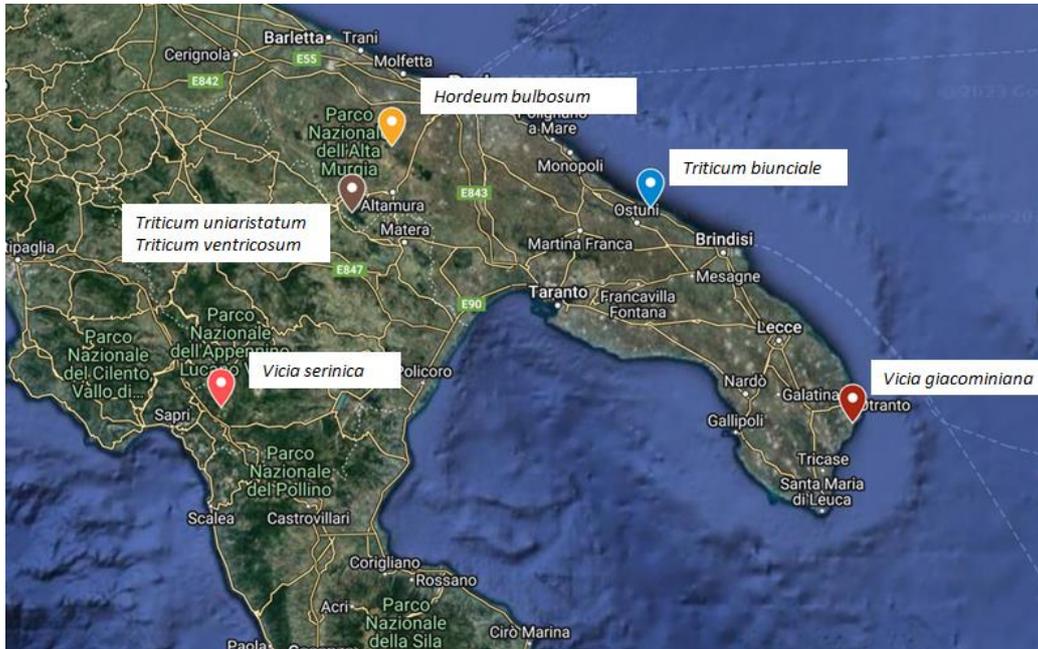
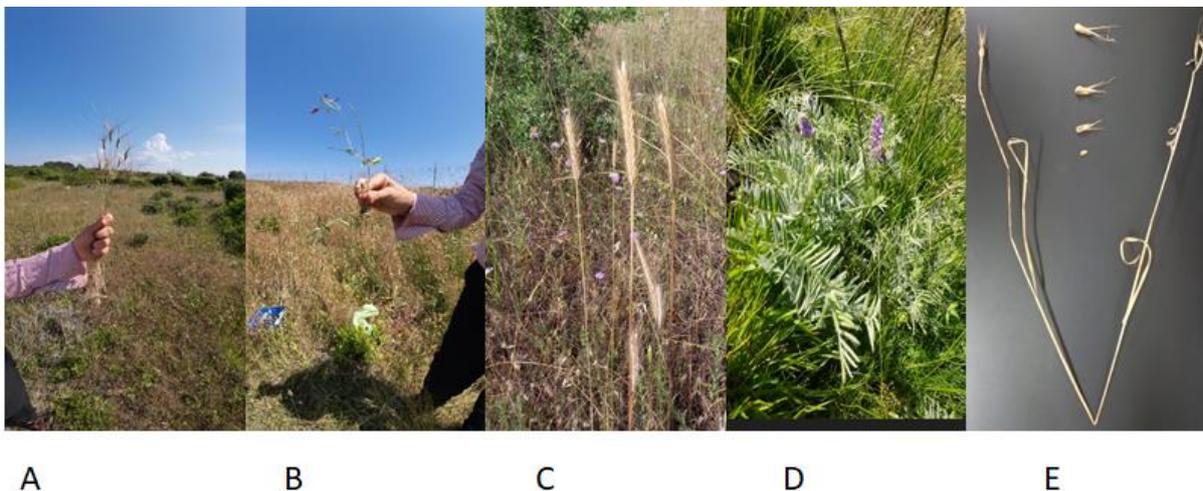


Figure 2. Distribution of the selected CWR populations on the territory of the regions Apulia and Basilicata.

The exploration missions involved 4 sites in Puglia: Porto Badisco, Costa Otranto - S. Maria Leuca Regional Natural Park (three populations of *V. giacominiiana*), Costa Merlata (one population of *T. biunciale*), Bosco di Bitonto, Alta Murgia National Park (three populations of *H. bulbosum*) and Bosco Difesa Grande, Natura 2000 site IT9120008 (one population of *T. ventricosum* and one population of *T. uniaristatum*). In the Basilicata region, a site was visited on Monte Papa, Appennino Lucano-Val d'Agri-Lagonegrese National Park (one population of *V. serinica*). (Figure 3). A total of 10 populations were identified and included in the EURISCO database.



A B C D E

Figure 3. *In situ* investigated area for: A) *Triticum biunciale*; B) *Vicia giacominiiana*; C) *Hordeum bulbosum*; D) *Vicia serinica*; E) *Triticum uniaristatum*.

The CWR populations identified in southern Italy are almost exclusively located in protected areas. In order to establish a network of data providers, as envisaged in the objectives of the project, a dialogue was initiated with the managers of the Alta Murgia National Park. The park authority has already

collaborated with IBBR-CNR in the past and, based on these contacts, a meeting with the park director was scheduled for November 14, 2023. At this meeting, the willingness to collaborate on the project was expressed, including work on the establishment of an access policy for the PGR designated in the park area. IBBR-CNR has prepared a draft contract to be submitted to the Alta Murgia Park authorities for approval.

With regard to *Lactuca alpina*, the presence of records in the Global Biodiversity Information Facility (GBIF) database regarding the occurrence of the species depended on the Latin name used in the research. By using the basionym *L. alpina* (L.) A. Gray, no occurrences resulted in Italy; by using the same basionym, but followed by a different author, i.e. is *L. alpina* Benth. & Hook.f., six occurrences resulted; finally, by using the binomial *Cicerbita alpina* (L.) Wallr., a total of 184 occurrences resulted in the Italian territory [GBIF.org (12 July 2023) GBIF Occurrence Download <https://doi.org/10.15468/dl.kcb2z7>]. The occurrences resulted for *L. alpina* Benth. & Hook.f. but were however not taken into consideration, because coming from unreliable or unqualified sources (i.e. observation.org, 2 occurrences), or because reporting a stated coordinate uncertainty higher than 500 meters (4 remaining cases). The 184 occurrences resulted for *C. alpina* were filtered by removing those in which no geographic coordinates were reported (20 cases) and those reporting a stated coordinate uncertainty higher than 500 meters (19 cases). One more occurrence with less than 2 decimal geographical coordinates was deleted. Six more occurrences were deleted because they dated back to before 1950 (up to 1908). Among the remaining occurrences, those coming from unreliable or unqualified sources (i.e. iNaturalist and observation.org, respectively 87 and 27 records) were also deleted. As a result, 30 reliable occurrences of *C. alpina* were taken into consideration. Among them, two were located within the province of Trento, although in sites not included in any protected area.

In the Genesys database, one record for *L. alpina* and six records for *C. alpina* resulted. In all cases, the records were linked to the EURISCO catalogue and concerned the *ex-situ* conservation of the species by different governmental Institutions, CREA of Italy among them. These records were not taken into consideration, since the aim of this study was to collect data of *in-situ* accessions. No record for the species resulted in the Mediterranean Germplasm Database (MGD).

The Museo Civico di Rovereto provided data on 477 different natural populations of *Cicerbita alpina* (L.) Wallr. [sin *Lactuca alpina* (L.) A. Gray] distributed within the territory of the province of Trento, Italy. Data, recorded between years 1978 and 2022, consist of geographical coordinates with 4 to 5 decimal digits, altitude, indication of the growing site, names of data collectors and, starting from 2015, precision of coordinate determination, ranging from 1 to 27 m.

With the aim of monitoring some actively conserved populations of the species, two surveys have been carried out in two sites encompassed within the territory of the Parco Naturale Adamello Brenta (<https://www.pnab.it/>), by the use of data extracted from the Museo Civico di Rovereto and CREA databases, respectively.

A first survey was carried out in Val Genova (Trento, Italy) on August the 2nd, detecting five populations in as many different sites and at different altitudes; population size, phenological and environmental data, associated species, coordinates of growing site and pictures of populations were recorded (Figure 4).



Figure 4. Growing sites of *Lactuca alpina* populations monitored in Val Genova (TN, Italy).

A second survey was carried out on August 31st in Val Nambrone (Pinzolo, TN), where a population of the species had been recorded by CREA in a previous investigation in 2005, but the population was not found again. This confirmed the risk of endangering the investigated species and the necessity to monitor the populations in their growing sites.

With the aim to organize the network of data providers, the following Public Institutions, endowed of the expertise and/or the authority for accessing the investigated plant resources and thus considered as their managing institutions, have been contacted:

- Parco Naturale Adamello Brenta (PNAB; <https://www.pnab.it/>)
- Servizio Aree Protette (“Protected Areas Office”) of the Autonomous Province of Trento
- Servizio Foreste (“Forest Office”) of the Autonomous Province of Trento
- Fondazione Museo Civico di Rovereto (FMCR; <https://www.fondazionemcr.it/>)

After the first contacts, an on-line meeting was held on November the 9th, 2023, among the representatives of the above-mentioned institutions, who expressed their interest in the aims of this project. PNAB in particular was identified as the organization which mainly manages the CWR populations distributed inside its area of competence, and declared its availability in providing the information requested in the context of this project for the monitored CWR populations. This availability was successively officially stated (Ref. Prot. CREA N°111788 of December the 12th, 2023).

Finally, one of the *Lactuca alpina* populations monitored during the survey of August the 2nd, 2023, due to its wide size and because easily accessible, was chosen for its inclusion in EURISCO, and the related data were conferred to EURISCO. The population is composed of approximately one hundred individuals, and situated near the mountain refuge “Adamello Collini al Bedole”, at 1596 m a.s.l. (N 46°11'50.7"; E 10°36'01.0") (Figure 5).



Figure 5. The *L. alpina* population growing in Val Genova proposed for its inclusion in EURISCO.

As for *Secale strictum* (C.Presl) C. Presl subsp. *strictum* and *Brassica montana* Pourr., protected areas managers (Directors and staff) of *Parco nazionale della Majella* (<https://www.parcomajella.it/>) and *Parco del Conero* (<http://www.parcodelconero.org/>), 2 parks located in Central Italy, were contacted being the responsible persons for *in situ* future survival and (possible) availability of CWR.

The two parks were selected, being known to host some natural populations of the two target species. Virtual meetings with the protected area managers were then arranged in October 2023 to explain the general context in which the project has been developed, project scope and deadlines, and the access policy to the resource that should be 'at least in principle' guaranteed once it enters the catalog. A simplified version of the list of indicators required for the inclusion of *in situ* populations in the EURISCO catalog has been prepared (in Italian) and shared with the protected area managers, along with the official one available on the ECPGR website, to facilitate the work requested to them. Protected area managers expressed a general interest in the initiative.

Regarding the species *Secale strictum* (C.Presl) C.Presl subsp. *strictum* (syn. *Secale montanum* Guss.), a population that meets the parameters for inclusion in the catalog exist within the borders of the *Parco nazionale della Majella*. Specifically the station is located at the location Serra Tre Monti, in the municipality of Gamberale-(Chieti). The station, identified in July 2013 (legit A. Manzi and M. Pellegrini), is situated at an altitude of approximately 1800 m on a limestone ridge, with exposed rocks in a clearing within a beech forest. The population consists of hundreds of individuals (around 400-500) growing among large rocky outcrops that hinder or, in any case, discourage grazing by the livestock present in the surrounding areas.

As for the species *Brassica montana* Pourr., known to occur in the *Parco del Conero*, it has not been possible to obtain more detailed information on populations that meet the criteria for inclusion in the Eurisco catalog.

Conclusions

As part of the project “Extension of EURISCO for Crop Wild Relatives (CWR) *in situ* data and preparation of pilot countries' data sets”, the Italian partners have created a database with information on CWR populations *in situ* in four Italian regions, which is to be included in EURISCO. The identification and selection of CWR of interest to Italy was based on information from existing databases at international and national level. The project partners identified and contacted the relevant institutions to facilitate access to the CWR material according to the document "Principles for the Inclusion of CWR Data in EURISCO" (van Hintum and Iriondo 2022).

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Annex A, from Ciancaleoni et al. 2021. List of CWR/WHP taxa with the highest conservation priority ("A" category) as defined in the present study for Italy. Taxa related to the crop genera included in Annex I of the ITPGRFA (FAO 2001) and ISTAT (2019), their current name, endemism (in Italy, Sardinia and Sicily) and more details about their status [*i.e.* included in the: Italian National Red Lists (Orsenigo et al. 2018, 2020; Rossi et al. 2016) and IUCN Red List (IUCN 2020) are reported.

Taxa	Endemism	Orsenigo et al. (2020)	Orsenigo et al. (2018)	Rossi et al. (2016)	IUCN Red List
<i>Agrostis canina</i> subsp. <i>aspromontana</i> Scelsi & Spamp.	Brullo, Italy		EN		
<i>Agrostis canina</i> subsp. <i>monteluccii</i> Selvi	Italy		VU		
<i>Allium agrigentinum</i> Brullo & Pavone	Sicily		EN		
<i>Allium anzaloni</i> Brullo, Pavone & Salmeri	Italy		NT		
<i>Allium calabrum</i> (N.Terracc.) Salmeri	Brullo, Pavone & Italy		NT		
<i>Allium castellanense</i> (Garbari, Miceli & Raimondo) Brullo, Guglielmo, Pavone & Salmeri	& Sicily		EN		
<i>Allium diomedeam</i> Brullo, Guglielmo, Pavone & Salmeri	& Italy		NT		
<i>Allium francinae</i> Brullo & Pavone	Sicily		NT		
<i>Allium garbarii</i> Peruzzi	Italy		NT		
<i>Allium garganicum</i> Brullo, Pavone, Salmeri & Terrasi	& Italy		EN		
<i>Allium hemisphaericum</i> (Sommier) Brullo	Sicily		VU		
<i>Allium julianum</i> Brullo, Gangale & Uzunov	Italy		EN		
<i>Allium lehmannii</i> Lojac.	Sicily		NT		
<i>Allium lopadusanum</i> Bartolo, Brullo & Pavone	Sicily		EN		
<i>Allium nebrodense</i> Guss.	Sicily		VU		
<i>Allium obtusiflorum</i> DC.	Subendemic		NT		
<i>Allium pelagicum</i> Brullo, Pavone & Salmeri	Sicily		NT		
<i>Allium pentadactyli</i> Brullo, Pavone & Spamp.	Italy		NT		
<i>Allium permixtum</i> Guss.		VU			
<i>Allium savii</i> Parl.		NT			
<i>Allium trifoliatum</i> Cirillo		NT			
<i>Allium vernale</i> Tineo	Sicily		VU		
<i>Arrhenatherum elatius</i> subsp. <i>nebrodense</i> (Brullo, Miniss. & Spamp.) Giardina & Raimondo	(Brullo, Sicily)		NT		
<i>Asparagus pastorianus</i> Webb & Berthel.		NT			
<i>Astragalus alopecurus</i> Pall.				NT	
<i>Astragalus aquilanus</i> Anzal.	Italy		EN	EN	
<i>Astragalus gennarii</i> Bacch. & Brullo	Sardinia		CR		
<i>Astragalus kamarinensis</i> C.Brullo, Miniss. & Sciandr.	Brullo, Brullo, Giusso, Sardinia		EN		
<i>Astragalus maritimus</i> Moris	Sardinia		CR	CR	
<i>Astragalus nebrodensis</i> (Guss.) Strobl	Sicily		NT		
<i>Astragalus peregrinus</i> Vahl subsp. <i>peregrinus</i>		CR			
<i>Astragalus peregrinus</i> subsp. <i>warionis</i> (Gand.) Maire		CR			
<i>Astragalus raphaelis</i> G.Ferro	Sicily		CR		
<i>Astragalus siculus</i> Biv.	Sicily		NT		

<i>Astragalus tegulensis</i> Bacch. & Brullo	Sardinia		CR	
<i>Astragalus terracciano</i> Vals.	Sardinia	EN		
<i>Astragalus thermensis</i> Vals.	Sardinia		EN	
<i>Astragalus verrucosus</i> Moris	Sardinia		CR	CR
<i>Astragalus vesicarius</i> subsp. <i>carniolicus</i> (A.Kern.) Chater		VU		
<i>Avena insularis</i> Ladiz.		NT		
<i>Barbarea sicula</i> C.Presl	Italy, Sicily	NT		
<i>Brassica baldensis</i> (Prosser & Bertolli) Prosser & Bertolli	Italy		VU	
<i>Brassica glabrescens</i> Poldini	Italy		NT	NT
<i>Brassica insularis</i> Moris	Subendemic			NT
<i>Brassica macrocarpa</i> Guss.	Sicily		CR	CR
<i>Brassica montana</i> Pourr.		VU		
<i>Brassica procumbens</i> (Poir.) O.E.Schulz		NT		
<i>Brassica rupestris</i> subsp. <i>hispida</i> Raimondo & Mazzola	Sicily		VU	
<i>Brassica souliei</i> (Batt.) Batt. subsp. <i>souliei</i>	Subendemic	NT		
<i>Brassica souliei</i> subsp. <i>amplexicaulis</i> (Desf.) Greuter & Burdet	Subendemic	NT		
<i>Brassica trichocarpa</i> C. Brullo, Brullo, Giusso & Ilardi	Sicily		NT	
<i>Brassica villosa</i> subsp. <i>brevisiliqua</i> (Raimondo & Mazzola) Raimondo & Geraci	Sicily		NT	
<i>Brassica villosa</i> subsp. <i>drepanensis</i> (Caruel) Raimondo & Mazzola	Sicily		VU	
<i>Cichorium spinosum</i> L.		EN		
<i>Citrullus colocynthis</i> (L.) Schrad.		EN		
<i>Crambe tataria</i> Sebeók				NT
<i>Cynara cardunculus</i> subsp. <i>flavescens</i> Wiklund		VU		
<i>Daucus carota</i> subsp. <i>rupestris</i> (Guss.) Heywood	Subendemic		EN	
<i>Daucus rouyi</i> Spalik & Reduron				
<i>Diplotaxis scaposa</i> DC.	Sicily		NT	
<i>Festuca alfrediana</i> Foggi & Signorini subsp. <i>alfrediana</i>	Sardinia	NT		
<i>Festuca gamisansii</i> Kerguelen subsp. <i>gamisansii</i>	Italy		VU	
<i>Festuca gamisansii</i> subsp. <i>aethaliae</i> Signorini & Foggi	Italy		VU	
<i>Festuca humifusa</i> Brullo & Guarino	Sicily		NT	
<i>Festuca morisiana</i> Parl. subsp. <i>morisiana</i>	Sardinia		VU	
<i>Festuca rivularis</i> Boiss. subsp. <i>rivularis</i>		NT		
<i>Ipomoea stolonifera</i> (Cyr.) J.F.Gmel.		CR		
<i>Lactuca longidentata</i> Moris	Sardinia		EN	
<i>Lathyrus apenninus</i> F.Conti	Italy		NT	
<i>Lathyrus palustris</i> L.		EN		
<i>Linum katieae</i> Peruzzi	Italy		VU	
<i>Linum mulleri</i> Moris	Sardinia		EN	EN
<i>Linum punctatum</i> C.Presl subsp. <i>punctatum</i>	Sicily		VU	
<i>Lolium interruptum</i> subsp. <i>corsicum</i> (Hack.) Banfi, Galasso, Kopecký & Ardenghi		CR		

<i>Lotus biflorus</i> Desr.			NT	
<i>Lotus peregrinus</i> L.			NT	
<i>Malus crescimannoi</i> Raimondo	Sicily			NT
<i>Medicago pironae</i> Vis.			NT	
<i>Onobrychis alba</i> subsp. <i>echinata</i> (Guss.) P.W.Ball	Italy			NT
<i>Phalaris elongata</i> Braun-Blanq.			NT	
<i>Phalaris truncata</i> Bertol.			NT	
<i>Phleum sardoum</i> (Hack.) Hack.	Sardinia			CR
<i>Pistacia atlantica</i> Desf.				NT
<i>Pistacia vera</i> L.				NT
<i>Poa remota</i> Forselles			NT	
<i>Prunus mahaleb</i> subsp. <i>cupaniana</i> (É.Huet & A.Huet)	Sicily & Arcang.			NT
<i>Prunus webbii</i> (Spach) Vierh.			VU	
<i>Ribes multiflorum</i> subsp. <i>sandaliticum</i> Arrigoni	Sardinia			EN
<i>Ribes sardoum</i> Martelli	Sardinia			CR CR
<i>Salsola oppositifolia</i> Desf.			EN	
<i>Thinopyrum flaccidifolium</i> (Boiss. & Heldr.) Moustakas			NT	
<i>Trifolium bivonae</i> Guss.	Sicily			NT
<i>Trifolium latinum</i> Sebast.				
<i>Trifolium saxatile</i> All.				EN
<i>Trifolium uniflorum</i> L. subsp. <i>uniflorum</i>	Italy, Sicily			NT
<i>Trifolium uniflorum</i> subsp. <i>savianum</i> (Guss.) Asch. & Graebn.	Italy, Sicily			NT
<i>Triticum uniaristatum</i> (Vis.) K.Richt.				
<i>Vicia consentina</i> Spreng.	Italy			NT
<i>Vicia cusnae</i> Foggi & Ricceri				
<i>Vicia dalmatica</i> A.Kern.			CR	
<i>Vicia giacominiiana</i> Segelb.	Italy			CR
<i>Vicia incisa</i> M.Bieb.				
<i>Vicia serinica</i> R.Uechtr. & Huter	Italy		EN	
<i>Vicia sparsiflora</i> Ten.			NT	
<i>Vicia tenuifolia</i> subsp. <i>elegans</i> (Guss.) Nyman	Italy, Sicily			NT
<i>Visnaga crinita</i> (Guss.) Giardina & Raimondo	Italy, Sicily			CR(PE)

Critically Endangered (Possibly Extinct) = CR(PE), CR = Critically endangered, EN = Endangered, VU = Vulnerable and NT = Nearly threatened.