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Red Listing plants under full national responsibility: Extinction risk and threats in the vascular flora endemic to Italy

Orsenigo Simone[a], Montagnani Chiara[b], Fenu Giuseppe[c], Gargano Domenico[d,*], Peruzzi Lorenzo[e], Abeli Thomas[f], Alessandrini Alessandro[g], Bacchetta Gianluigi[c], Bartolucci Fabrizio[h], Bovio Maurizio[i], Brullo Cristian[j], Brullo Salvatore[j], Carta Angelino[e], Castello Miris[k], Cogoni Donatella[c], Conti Fabio[h], Domina Gianniantonio[l], Foggi Bruno[m], Gennai Matilde[m], Gigante Daniela[n], Iberite Mauro[o], Lasen Cesare[p], Magrini Sara[q], Perrino Enrico V.[r,s], Prosser Filippo[t], Santangelo Annalisa[u], Selvaggi Alberto[v], Stinca Adriano[w], Vagge Ilda[a], Villani Mariacristina[x], Wagensommer Robert P.[n], Wilhalm Thomas[y], Tartaglini Nicoletta[s], Duprè Eugenio[s], Blasi Carlo[o], Rossi Graziano[f]

[a] Department of Agricultural and Environmental Sciences – Production, Landscape, Agroenergy, University of Milan, Milan, Italy
[b] Department of Earth and Environmental Sciences, University of Milano-Bicocca, Milan, Italy
[c] Centre for the Conservation of Biodiversity (CCB), Department of Life and Environmental Sciences, University of Cagliari, Italy
[d] Department of Biology, Ecology and Earth Sciences, University of Calabria, Arcavacata di Rende, Cosenza, Italy
[e] Department of Biology, University of Pisa, Pisa, Italy
[f] Department of Earth and Environmental Sciences, University of Pavia, Pavia, Italy
[g] Institute for Cultural Heritage, Region Emilia-Romagna, Italy
[h] School of Biosciences and Veterinary Medicine, University of Camerino – Floristic Research Center of the Apennines, National Park of Gran Sasso and Laga Mountains, San Colombo, Barisciano, L'Aquila, Italy
[i] Scientific Committee, Regional Museum of Natural Sciences "Efisio Noussan", Autonomous Region Valle d'Aosta, Quart, Aosta, Italy
[j] Department of Biological, Geological and Environmental Sciences, University of Catania, Catania, Italy
[k] Department of Life Sciences, University of Trieste, Trieste, Italy
[l] Department of Agriculture, Food and Forest Sciences, University of Palermo, Palermo, Italy
[m] Department of Biology, University of Florence, Florence, Italy
[n] Department of Chemistry, Biology and Biotechnology, University of Perugia, Perugia, Italy
[o] Department of Environmental Biology, Sapienza University of Rome, Rome, Italy
[p] Arson di Feltre, Belluno, Italy
[q] Tuscia Germplasm Bank, Tuscia University, Viterbo, Italy
[r] CIHEAM, Agronomic Mediterranean Institute of Bari, Valenzano, Bari, Italy
[s] Ministry for Environment and Protection of Land and Sea General Directorate Protection Nature and Sea, Rome, Italy
[t] Rovereto Civic Museum Foundation, Rovereto, Trento, Italy
[u] Department of Biology, University of Naples Federico II, Italy
[v] Institute for Timber Plants and the Environment, Turin, Italy
[w] Department of Environmental, Biological and Pharmaceutical Sciences and Technologies, University of Campania Luigi Vanvitelli, Caserta, Italy
[x] Botanical Garden of Padua, University of Padua, Padua, Italy
[y] Museum of Nature South Tyrol, Bolzano, Italy

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ABSTRACT

Taxa endemic to a country are key elements for setting national conservation priorities and for driving conservation strategies, since their persistence is entirely dependent on national policy. We applied the IUCN Red List categories to all Italian endemic vascular plants (1340 taxa) to assess their current risk of extinction and to highlight their major threats. Our results revealed that six taxa are already extinct and that 22.4% (300 taxa) are threatened with extinction, while 18.4% (247; especially belonging to apomictic groups) have been categorized as Data Deficient. Italian endemic vascular plants are primarily threatened by natural habitat modification due to agriculture, residential and tourism development. Taxa occurring in coastal areas and lowlands, where anthropogenic impacts and habitat destruction are concentrated, display the greatest population decline and extinction. The national network of protected areas could be considered effective in protecting endemic-rich areas

* Corresponding author at: Museo di Storia Naturale della Calabria ed Orto Botanico dell'Università della Calabria, loc. Polifunzionale, I-87036 Arcavacata di Rende, Italy.
E-mail address: domenico.gargano@unical.it (D. Gargano).

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(ERAs) and endemic taxa, but ineffective in protecting narrow endemic-rich areas (NERAs), accordingly changes to the existing network may increase the effectiveness of protection. For the first time in the Mediterranean Basin biodiversity hotspot, we present a comprehensive extinction assessment for endemic plants under the full responsibility of a single country. This would provide an important step towards the prioritization and conservation of threatened endemic flora at Italian, European, and Mediterranean level. A successful conservation strategy of the Italian endemic vascular flora should implement the protected area system, solve some taxonomical criticism in poorly known genera, and should rely on monitoring threatened species, and on developing species-specific action plans.

1. Introduction

Due to their restricted distribution, endemic taxa (i.e. showing a natural range restricted to a well-defined area, Anderson, 1994; Casagranda and Lizarralde de Grosso, 2013) may be intrinsically threatened (Ellstrand and Elam, 1993; Işik, 2011), and are therefore highly important in the global, national, and local (regional) prioritization of conservation efforts (Das et al., 2006; Huang et al., 2016). Indeed, the decline of plant species and populations may induce the extinction of endemic taxa, causing a loss of unique evolutionary history and ecosystem services (Isaac et al., 2007). Several international initiatives are in place to reduce the loss of biodiversity, including international treaties (i.e. Convention on Biological Diversity's 2020 target) and conservation policies (i.e. Directive 1992/43/EEC in Europe). Nevertheless, a national approach to biodiversity protection is the most effective way for a country to protect its endemic flora, since "it is at regional and local scales that human actions and biodiversity collide" (Pimm et al., 2001). The choice in applying the concept of endemism to artificial borders like national boundaries has some limitations. Species endemic to a country tend by definition to be placed away from countries' boundaries, while taxa of conservation interest for a certain biogeographic region falling between the boundaries among two or more countries will remain excluded. However, this political scale has also an immediate practical reflection, given that most conservation decisions and policies have to be met at national level and, consequently, the global chance of survival for species endemic to a country is entirely dependent on its national policy. Thus, endemic taxa are key elements for setting national conservation priorities and for assigning conservation tasks (Schmeller et al., 2008; Brundu et al., 2017). In general, the higher the number of taxa endemic to a country, the greater the responsibility of that country in preserving global biodiversity. However, in megadiverse countries (e.g., Brazil or Mexico; Canhos et al., 2015; Sarukhán et al., 2015) the high number of endemic species may require a prioritization of conservation efforts.

This also can be applied to Italy, a country placed in the heart of the Mediterranean Basin, a region considered one of the most threatened global biodiversity hotspots, due to the high rate of endemism and to the high human impact (Vogiatzakis et al., 2006; Cuttelod et al., 2008; Médail, 2017). This "political" choice shows in Italy less shortcomings compared to other countries, given that the geographical position of the Italian peninsula and the limited area (i.e. Alps) shared with neighbouring countries. In Italy, according to the most recent checklist, the native vascular flora consists of 8195 taxa, 1707 of which are endemic to Italy, Italy and Corsica (France), or Italy and Malta (Bartolucci et al., 2018). Among these taxa, 1340 (16.4%) are narrow endemics confined to Italy (subspecies of *Hieracium* and *Pilosella* excluded, see also Peruzzi et al., 2014, 2015, continuously updated online). These include four endemic genera: *Eokochia* (Amaranthaceae), *Rhizobotrya* (Brassicaceae), *Petagnaea* and *Siculosciadium* (Apiaceae). Considering the high number of endemic species occurring in Italy, and in other countries within biodiversity hotspots, it is urgent to focus on conservation priorities, at global, national, and regional level, as well as on stimulating conservation actions and raising public awareness.

The recent State of the World's Plants report from the Royal Botanic Gardens of Kew estimates that 50,000 of the ~390,000 globally known vascular plant species are threatened with extinction (Royal Botanic Gardens, 2016). According to the Global Strategy for Plant Conservation 2011–2020 of the Convention on Biological Diversity (CBD; Objective I, target II; GSPC; https://www.cdb.int/gspc/), one of the key stages is the preliminary assessment of the conservation status of the whole Earth's flora. A reliable evaluation of the conservation patterns of plant species represents an important step not only to evaluate progress towards the CBD's Aichi Targets of the Strategic Plan for Biodiversity 2011–2020 (Pimm et al., 2014), but also to identify effective conservation strategies (Collen et al., 2016). However, the proportion of assessed plant species is still low compared, for instance, to vertebrates (Collen et al., 2016). IUCN Red Listing is widely used to evaluate the global conservation status of species and to estimate their extinction risk (e.g., Mace et al., 2008; Maes et al., 2015). Hence, up-to-date Red Lists are important starting points for conservation actions and provide useful information for monitoring changes in the conservation status of species (e.g., Red List Index; Bubb et al., 2009). Nowadays, the publication of new plant species frequently includes an assessment of their status based on the IUCN criteria. Although some Italian endemic taxa have been recently assessed against the IUCN criteria (e.g., Foggi et al., 2014; Rossi et al., 2016; Orsenigo et al., 2016, 2017; Fenu et al., 2016, 2017a), a comprehensive Red List for the Italian endemic vascular plants is still lacking. The evaluation of the extinction risk of all the Italian endemic plants would provide a powerful tool for driving further conservation steps for these unique organisms. For example, stimulating the improvement of the national network of protected areas, the implementation of a national legislation for the protection of the flora, and the reinforcement of the most threatened species.

In this paper, we present a complete and updated risk assessment of all Italian endemic vascular plants (1340 taxa), using the current IUCN Red List categories and criteria (IUCN, 2012a). This work is based on an exhaustive database, including information from herbarium specimens, literature and field surveys performed in the last fifteen years. With this assessment, we aimed to identify the most threatened endemic plant taxa (and genera) and to highlight those taxa requiring urgent conservation actions, helping to set conservation priorities at national and European level. In particular, our red listing aimed to answer the following questions: 1) what is the current extinction risk of the Italian endemic vascular plants? 2) what are the major threats to Italian endemic plants? 3) does the Italian system of protected areas ensure an adequate protection to endemic vascular plants and endemic-rich areas? This work provides the first comprehensive assessment of the endemic plants for a country in the Mediterranean Basin biodiversity hotspot. Considering that Italian endemic flora significantly contributes to the outstanding biodiversity of the Mediterranean region, our work may provide new and useful information on the general conservation status of the flora of this biodiversity hotspot.

2. Materials and methods

2.1. Endemic species checklist

In the present study, Italian endemic plants are defined as taxa whose distribution is strictly limited to the Italian administrative territory, excluding all vascular plants occurring also in neighbouring

countries (e.g., Corsica, Malta, San Marino Republic, Switzerland, etc.).

Given their highly questionable taxonomic status (see Peruzzi et al., 2014, 2015, but also Bartolucci et al., 2018), subspecies within the genera *Hieracium* L. and *Pilosella* Hill (two genera of Asteraceae accounting for hundreds of subspecies considered to be endemic to Italy), all showing insufficient and unreliable distribution data, were excluded from this study to avoid misinterpretation of conservation status. Endemic hybrid taxa, as well as varietal units, were also excluded.

2.2. Red list data

The conservation status of all the Italian endemic vascular plants was assessed according to the IUCN categories and criteria (version 3.1; IUCN, 2012a). Data on species distribution were collected from herbarium specimens, published and unpublished data, and recent field surveys since the early 2000s, representing all the rich, but often dispersed, Italian floristic knowledge. For taxa occurring in pristine habitats (e.g., vertical cliffs), data since the early 1990s were also used. All records were validated by a dedicated working group of botanists, including regional and taxonomic specialists (Rossi et al., 2013; MATTM, 2018). The compilation of distribution and threat data was followed by a draft assessment, which underwent a process of peer review during workshops promoted by the working group for Nature Conservation of the Italian Botanical Society (Rossi et al., 2014).

A total of 19,468 records were georeferenced and organized in QGIS ver. 2.18, including sites of occurrence, population trends, and the main threats at local level identified on expert-based observations and literature sources. Threats were categorized according to the IUCN threats classification scheme (version 3.2; IUCN, 2012b). These data were used to evaluate the major threatening processes affecting endemic vascular plants in Italy.

Given the different level of accuracy of the distribution data, each georeferenced record was rescaled to a 2 km × 2 km fixed grid and superimposed on a map of Italy (Gargano, 2011). Cell size was chosen as the best resolution for standardizing data from different sources and for ensuring a reliable calculation of the Area of Occupancy (AOO) under subcriterion B2 (IUCN, 2012a). Assessments were mostly based on criterion B, however, when consistent data on population size and/or trends were available, other criteria were also applied (i.e., A, C, and D; IUCN, 2012a). To apply sub-criteria under the criterion B, distribution data have been used to define the number of locations and the occurrence of severe fragmentation for each taxon according to IUCN (2013) guidelines. A single location included one or more sites of occurrence in a given area. Indeed, following the indications of local experts, each location has been designed to include all the sites of a taxon potentially affected by the same major threat. The occurrence of severe fragmentation has been evaluated by estimating the fraction of the taxon occurring in isolated populations. To this end, a distance of 50 km has been set as a general isolation threshold. However, for plants showing relevant limitation to dispersal (e.g. due to a high level of ecological specialization versus rare habitat types) such a general threshold has been tuned according to the indication of expert botanists. For estimating continuing decline, historical habitat or population trends have been considered when available; in the absence of such data the evaluation has been founded on indications provided by local experts. Following the precautionary approach suggested by Butchart et al. (2006), taxa that were not recorded during the previous three decades, but for which uncertainty regarding extinction remained, were categorized as "Critically Endangered (Possibly Extinct)". A taxon was considered extinct (EX) if it was not recorded in the last 50 years, and when recent field surveys focused on finding the species in its historical area of occurrence were unsuccessful.

2.3. Endemic species richness, range-rarity index and protection level

In order to detect areas with high endemism richness (López-Pujol et al., 2011; Cañadas et al., 2014), all geographic data were upscaled to a 10 km × 10 km cell grid. This spatial resolution is the more appropriate to reveal a pattern of endemism at the national scale and to minimize sampling bias (Carta et al., 2018).

Endemic species richness was measured as the total number of endemic species occurring in each 10 km × 10 km grid cell irrespective to their range size. We arbitrary considered endemic-rich areas (ERAs, hereafter) as cells with > 20 taxa (n > 20). Then we analysed the spatial pattern of species endemism using the Corrected Weighted Endemism index (CWE) in order to take into account range-rarity richness issues. Weighted Endemism (WE) index was calculated as the sum of the weights of each endemic species measured as the inverse of their grid-cell range. CWE index was calculated by dividing the WE index by the total number of endemic species in a grid cell (Laffan et al., 2013), with endemism unweighted by the number of neighbours, using Biodiverse software (Laffan et al., 2010). We arbitrary considered narrow endemic-rich areas (NERAs hereafter) cells with range rarity CWE index ≥ 0.4444. For the taxa included in the Data Deficient (DD), Extinct (EX), Extinct in the Wild (EW) and Critically Endangered (Possibly Extinct) (CR[PE]) IUCN Categories, the distribution was

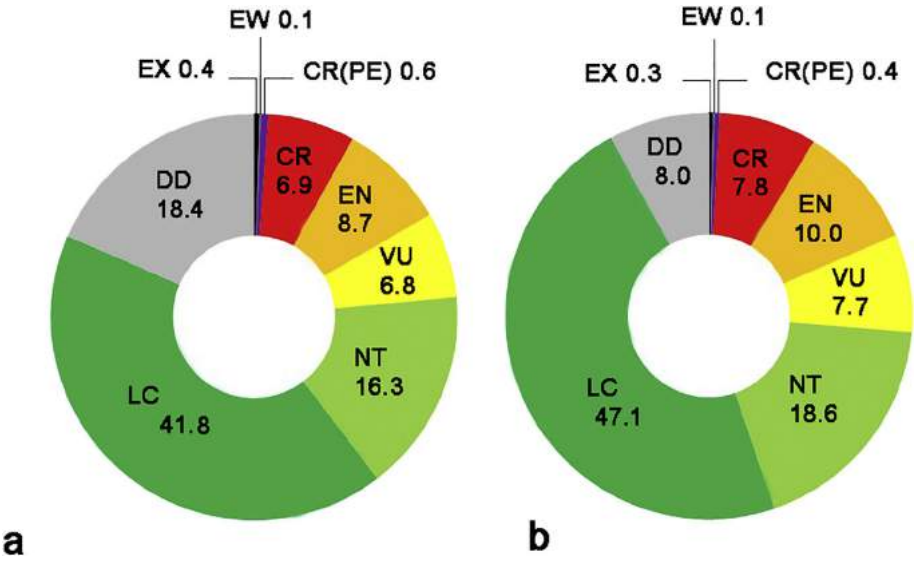

Fig. 1. a. Red list status of vascular plants endemic to Italy. b. Red list status of vascular plants endemic to Italy, excluding taxonomically critical genera (see the text).

omitted, since only few or no data were available. Therefore, the distribution data of 1077 (80.4%) taxa were used to generate endemic richness and range-rarity CWE index maps.

A gap analysis (e.g., Carta et al., 2018; Fois et al., 2018) was then applied to evaluate the current level of protection of ERAs, NERAs and single endemic taxa. For this purpose, the official map of Italian terrestrial protected areas (including: protected natural areas - EUAP, and sites of the Natura 2000 Network) was superimposed on the distribution of Italian ERAs, NERAs (10 km × 10 km cell grid) and on the AOO of each taxon. Protected area system was superimposed on the same 10 km × 10 km cell grid layer. The protection level of ERAs and NERAs was considered as 'effective' (highly protected areas) when ≥50% of the cell surface was included in a protected area, and as 'ineffective' (lowly protected areas) when < 50% of the cell surface was included in protected areas (Araújo, 2004). Moreover, we considered endemic taxa as 'fully protected' when all the AOO was included in protected areas and 'unprotected' when all the AOO was outside protected areas.

3. Results

3.1. Red list assessment

The list of Italian endemic vascular plants includes 1340 species and subspecies (see Table A1). Six taxa have been categorized as Extinct (EX): *Anthyllis hermanniae* L. subsp. *sicula* Brullo & Giusso, *Herniaria fontanesii* Gay subsp. *empedocleana* (Lojac.) Brullo, *Limonium catanense* (Tineo ex Lojac.) Brullo, *Ranunculus hostiliensis* Pignatti, *R. mutinensis* Pignatti, and *Suaeda kocheri* Guss. ex C.Brullo, Brullo & Giusso. One taxon, namely *Limonium intermedium* (Guss.) Brullo, has been recognized as Extinct in the Wild (EW) and eight taxa have not been recorded in recent years and qualified as Critically Endangered (Possibly Extinct) [CR(PE)] (Fig. 1a and b).

A total of 300 taxa (22.4%) have been assigned to a risk category (Critically Endangered, Endangered, Vulnerable; CR, EN, VU, Fig. 1). Additional 218 taxa (16.3%) have been categorized as Near Threatened (NT), and 560 (41.8%) as Least Concern (LC). Because the available data did not allow a reliable assessment, 247 taxa (18.4%) are considered as Data Deficient (DD). At the family level, the percentage of threatened taxa is quite variable (Fig. 2), ranging from 34.3% in Apiaceae to 7.9% in Rosaceae. The percentage of Data Deficient species is also highly variable, ranging from 2.8% in Fabaceae to 55.3% in Rosaceae. At the genus level, the percentage of threatened species varies from 35.7% in *Dianthus* to zero in *Taraxacum*.

3.2. Major threats

Most of the evaluated taxa are affected by multiple threats (Table A2). The major threats to Italian endemic vascular plants are those related to natural system modifications, agriculture, residential development and human disturbance, which affect respectively 33.6%, 24.1%, 23.6%, and 20.5% of taxa (Fig. 3 and Table A2). More specifically, threats concerning natural system modifications are related to the increase in fire frequency (186 taxa) and abandonment of managed lands (208 taxa). Threats from residential and commercial development encompass new human settlements in urban areas and suburbs (104 taxa) and the tourism (193 taxa). Agriculture represents a major threat, especially due to livestock farming and ranching (210 taxa) and, to a lesser extent, to non-timber crops (59 taxa). Finally, human disturbance, mainly related to recreational activities (e.g., hikers, off-road vehicles, rock-climbers), affects 249 taxa.

Currently, transportation corridors (road and railroads), climate change (drought), plants collection for commercial or cultural purposes, and non-native invasive species represent minor threats.

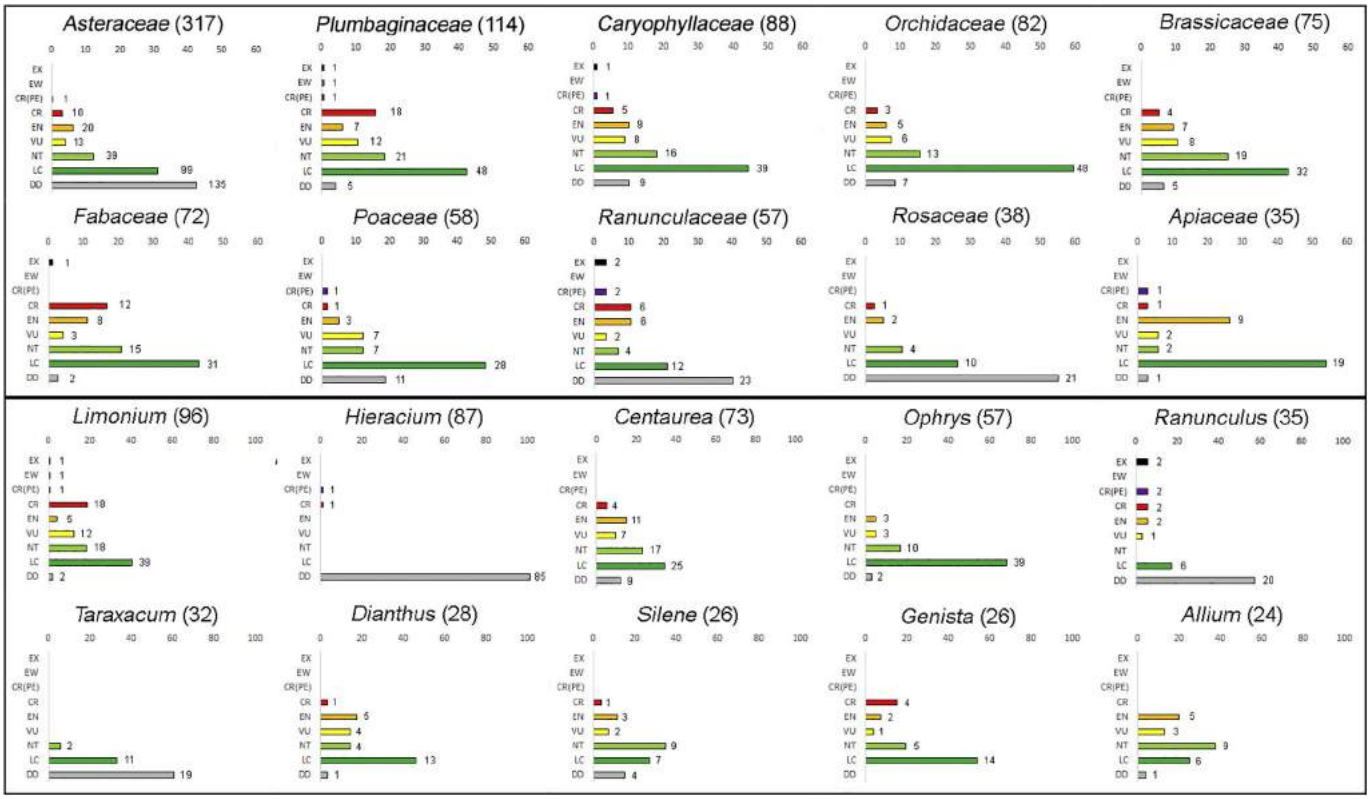

Fig. 2. Major families and genera of the Italian endemic vascular flora (the corresponding number of taxa is in brackets). For each family and genus, the percentage of endemic species assigned to each category and the number of species is reported.

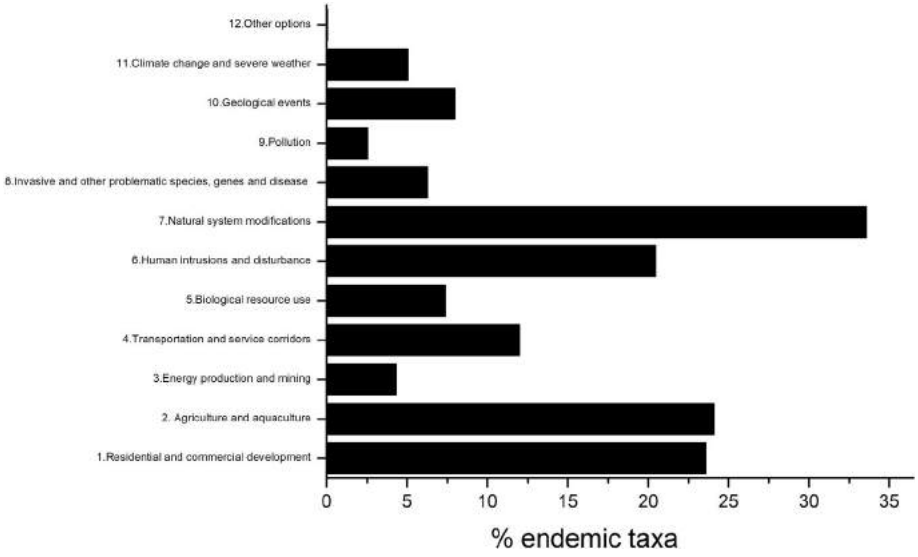

Fig. 3. The percentage of Italian endemics affected by each major threat category according to the IUCN Threats Classification Scheme (version 3.2; IUCN, 2012b).

3.3. ERAs and NERAs distribution

The endemic species richness is highly variable across cells, ranging from zero to 86 taxa per cell (in the Madonie mountains, Sicily). The most important areas for endemic species (ERAs; Fig. 4) occur in Sardinia, Sicily, Southern Apennines (Aspromonte, Sila, and Pollino massif), Gargano promontory, Central Apennines (Majella and Gran Sasso mountains), Northern Apennines and Apuan Alps. Because of the selection criteria (i.e. taxa occurring only in the Italian administrative territory), the Alps are instead less represented, since several Alpine endemics are shared with neighbouring countries. Nevertheless, some areas of Southern Alps (e.g., Orobian Alps and surroundings of Garda Lake) show high levels of Italian endemics richness (up to 19 species).

The analysis of patterns of endemism using range weighting reveals that some ERAs remain of key importance (Sardinia, Sicily, Apuan Alps), but single cells with highest CWE index are dispersed throughout the territory, with higher concentration in coastal and subalpine areas. The most important areas for narrow endemic species (NERAs; Fig. 5) besides Sardinia, Sicily and the Apuan Alps are the Tuscan Archipelago, the small Sicilian Islands (Aeolian Islands, Pelagie Islands and Pantelleria), Southern Apulia and southern-alpine slope.

3.4. Protection of Italian ERAs, NERAs and endemic taxa

Regarding the in situ potential conservation, 69.4% of ERAs are effectively protected (with 16% of cells fully included in a protected area), while 29.5% are ineffectively protected. Only 1.1% of the ERAs are totally unprotected (i.e.: Catena Costiera area in Calabria). Conversely, only 20.9% of NERAs are effectively protected, while 70.5% are ineffectively protected and 8.6% are totally unprotected (Fig. 6).

The current system of protected areas ensures the total protection of 135 Italian endemic taxa (10%), while 28 taxa are totally unprotected (2.1%), 13 of these, are threatened with extinction (Table 1).

4. Discussion

Endemic taxa are the most valuable component of a flora and deserve high regional and global conservation priorities (Schmeller et al., 2008; Brundu et al., 2017). However, the high number of endemic species hosted in countries within biodiversity hotspots, like Italy, may prevent effective conservation efforts, without an exhaustive, accurate and updated priority list. Assessments of species conservation status are considered effective tools to aid conservation planning and to evaluate conservation options (Hoffmann et al., 2010). Narrow endemic taxa confined to Italy represent 16.4% of the whole Italian flora according to the most recent checklist (Bartolucci et al., 2018). Moreover, about 5.0% of the Italian endemics are of high potential economic interest, being crop wild relatives (Domina et al., 2012). The assessment of their extinction risk, as well as their protection level, is therefore crucial to reach the targets of Global Strategy for Plant Conservation (GSPC) and Convention on Biological Diversity (CBD).

In this study, all the 1340 vascular plants endemic to Italy were assessed under the IUCN categories and criteria. This is one of the largest and most complete conservation assessment of the vascular flora endemic to a country (for other examples see MEP-CAS, 2013; SANBI, 2017), and could provide a powerful tool for the conservation of plant diversity in Europe and in the Mediterranean basin, allowing the accomplishment of the GSPC Target 2 at least for species under full Italian responsibility.

Looking at global trends, the proportion of threatened Italian endemic taxa (22.4%) is perfectly consistent with the global estimations (22.0%; Brummitt et al., 2015) and also comparable with another Mediterranean country, i.e. Spain (22.1%; Muñoz-Rodríguez et al., 2016), albeit in the latter taxa have been evaluated through a quick assessment process (see Muñoz-Rodríguez et al., 2016 for details). Our results show that six taxa are already extinct, and eight taxa are possibly extinct. This extinction rate is similar to that reported for Spain, where five endemic taxa are considered extinct (Aedo et al., 2015) and lower than observed, for instance, in other global biodiversity hotspots with Mediterranean-type climate as California, where 17 endemic taxa have been recently declared extinct (Rejmánek, 2018), or South Africa, where extinct species, not considering only endemic taxa, are 29 (0.2% of whole South Africa flora; SANBI, 2017). Comparing the assessment of endemic plants with some major groups of animals in Italy, vascular plants represent one of the most threatened taxonomic groups in Italy together with vertebrates (28.0%; Rondinini et al., 2013) and saproxylic beetles (21.0%; Audisio et al., 2014), while dragonflies and butterflies reach lower percentages (10.9% and 6.3% respectively, according to Riservato et al., 2014 and to Balletto et al., 2015).

Concerning Italian endemic plants, some genera show a marked extinction risk. The highest percentage of threatened species is reached by several of the most representative genera of the Italian endemic flora, such as *Limonium*, *Dianthus*, *Allium*, and *Centaurea* (collectively representing > 30% of taxa included in a threatened category). Most of the taxa belonging to these genera grow in coastal areas, where

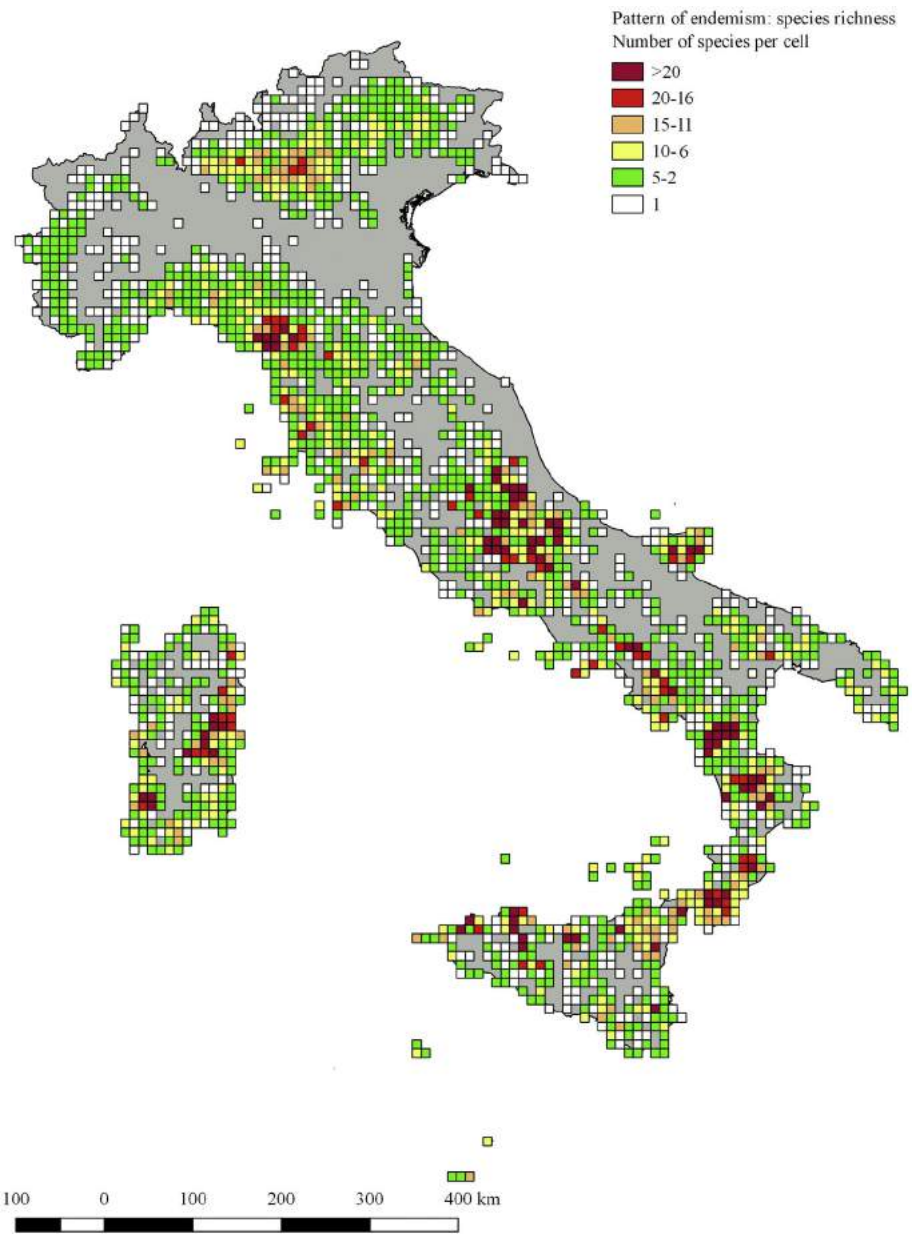

Fig. 4. Distribution map showing the number of the Italian endemic vascular plants recorded in 10 km × 10 km quadrats. ERAs are in dark red (n > 20 taxa). In grey cells, no endemic taxa have been reported. Taxa assigned to EX, EW, CR(PE) and DD categories were not considered in the analysis. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

increased tourism impact and residential development have caused dramatic habitat changes, with consequent loss of suitable habitat (e.g., Fenu et al., 2013; Lhotte et al., 2014).

It is noteworthy that 18.4% (247) of taxa were assessed as Data Deficient. The high percentage of DD species highlights the importance of accurate taxonomic knowledge in conservation assessment (Callmander et al., 2005). This seems particularly relevant for some apomicts like *Alchemilla*, *Hieracium*, *Pilosella* and *Taraxacum*, which were assigned mostly to DD category due to difficulties in the identification of (micro)species by field botanists. The high percentage of Data Deficient cases points towards the need for further taxonomical, biological, ecological and biogeographical analyses of endemic species, to update their distribution and to facilitate their conservation.

The analysis of endemic species richness highlighted areas where endemic species cluster together (Fig. 4) or where the highest diversity of narrow endemic species can be found (Fig. 5). Implications of these analyses are important because they allow the identification of areas of potential conservation importance and the focusing of direct conservation management actions in geographical areas with the highest levels of plant diversity (Crain et al., 2011) or with high concentration of narrow endemic species (Wulff et al., 2013). Our choice to restrict endemic taxa to national boundaries, has unavoidably caused the underrepresentation of taxa endemic to the alpine biogeographic region in our dataset, despite it being a well-known European biodiversity hotspot (Aeschimann et al., 2011 and reference therein). For alpine taxa, the extinction risk should be assessed using a biogeographical approach involving all the countries hosting their ranges, and a unique threat category should be adopted by each country to facilitate the convergence of action plans in different administrative areas and to avoid unnecessary conservation efforts (Gentili et al., 2011). Alternatively, at least for taxa growing close to national borders, risk assessments should be done twice, once by a country basis and once by a biogeographic region basis. Nevertheless, the analysis of patterns of endemism using range weighting reveals that the Alps host also many narrow endemic

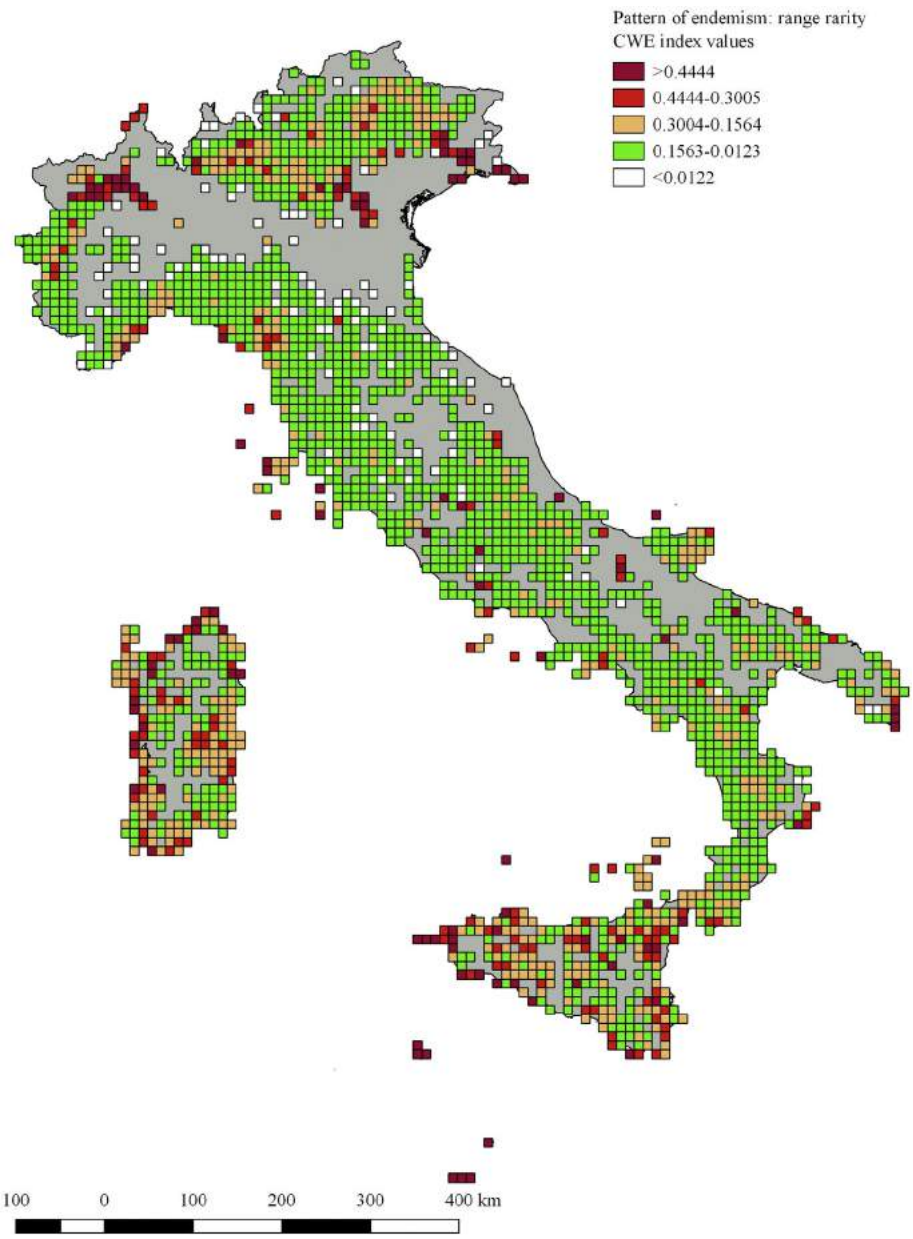

Fig. 5. Distribution map showing the spatial pattern of range-rarity richness using the CWE index in 10 km × 10 km quadrats. NERAs are in dark red (CWE index ≥ 0.4444). In grey cells, no endemic taxa have been reported. Taxa assigned to EX, EW, CR(PE), and DD categories were not considered in the analysis. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

taxa confined to Italy. This is consistent with the high level of narrow endemic species recorded in the south-western and eastern Alps (Aeschimann et al., 2011). NERAs are also concentrated in the near-coastal cells of Sardinia, Sicily, and minor islands. This is not surprising, since in small islands and in coastal areas the highest diversity of some of the most representative Italian endemic genera like *Limonium*, *Centaurea*, and *Genista* can be found. The analysis of threats affecting endemic plants suggests that the human pressure connected with agriculture, residential and commercial development or recreational activities is a key driver of extinction risk. Approximately two-thirds of the Italian endemics are threatened by anthropogenic, direct and/or indirect, disturbance. Population density and related human activities are recognized as main threats in all the Mediterranean biome (Underwood et al., 2009). Among indirect threats, we can include climate change; although it does not currently have a significant impact on species conservation (Fig. 3), it is strictly connected with natural system modifications like an increase in frequency of fires (Pausas and Fernández-Muñoz, 2012) and water management and use, both listed among the main threats to the conservation of Italian endemic plants (Table A2). Especially in coastal areas, increased tourist inflow has negative impacts on the endemic flora (e.g., Ballantyne and Pickering, 2013; Fenu et al., 2013) and can produce detrimental consequences, such as in Sicily, where the extinction of some endemic taxa and the fast decline of some species related to sandy dunes habitats or coastal areas (e.g.: *Limonium* or *Dianthus* species) have been reported (Orsenigo et al., 2017). This is particularly alarming, if we consider the high number of NERAs in near-coastal cells, especially in major and minor islands.

On the other side, the abandonment of traditional agricultural practices (i.e. mowing, nomadic grazing) or the shift to intensive farming or livestock have strongly contributed to habitat loss or modification in the Mediterranean Basin (Plieninger et al., 2014) resulting in a major threat for endemic species also in Italy (Baiamonte et al., 2015; Astuti et al., 2018).

Our analyses reveal that ERAs partially overlap with protected areas

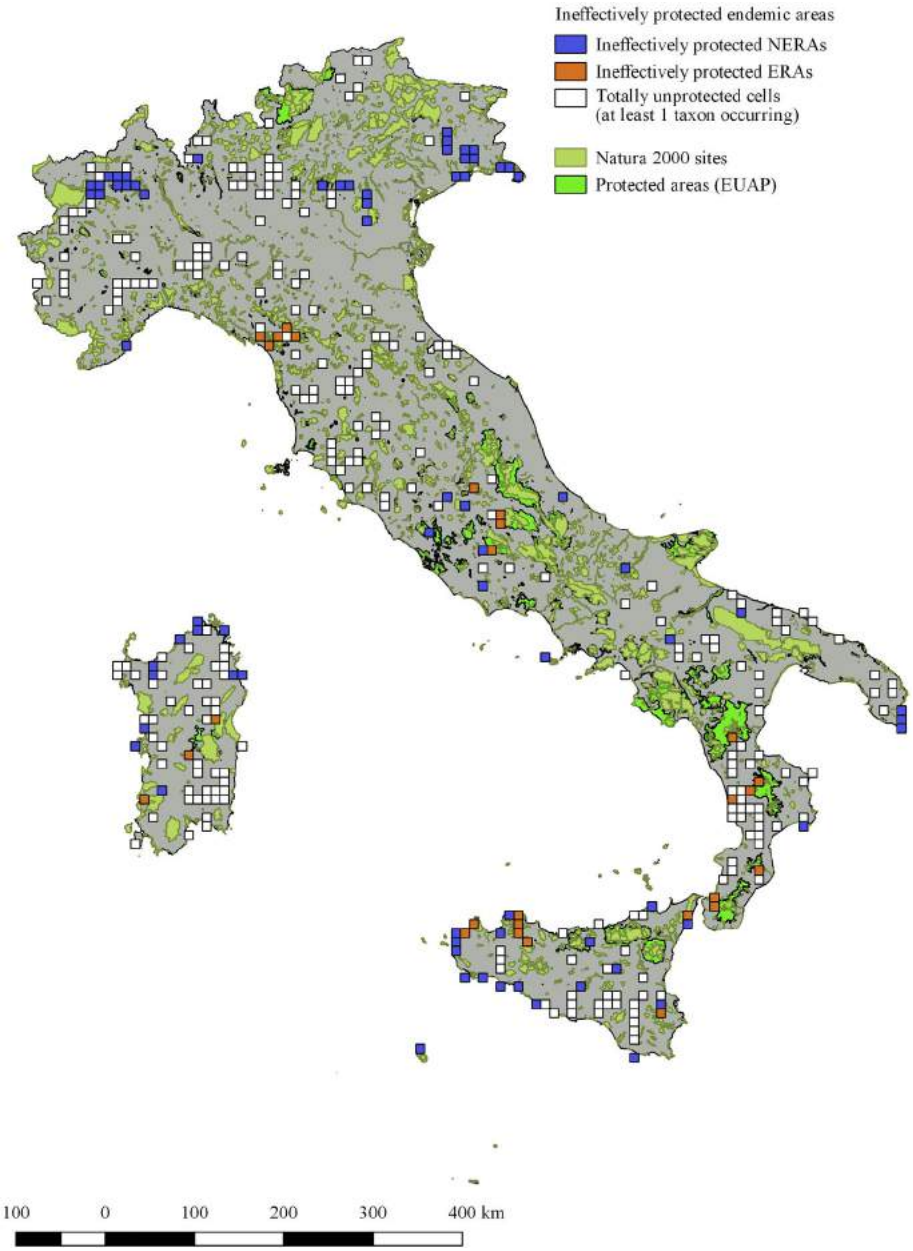

Fig. 6. Natural protected areas included in the gap analyses: EUAP protected areas (bright green); Natura 2000 sites (pale green). Blue squares represent NERAs 10 km × 10 km quadrats ineffectively protected (< 50% of cell surface included in protected areas); orange squares represent ERAs 10 km × 10 km quadrats ineffectively protected (< 50% of cell surface included in protected areas); white squares represent totally unprotected cells containing at least one endemic, not protected taxon. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

(Fenu et al., 2017b). Similar results were obtained also by Brundu et al. (2017) concerning the degree of protection of type localities of Italian endemic plants. ERAs include both high and low altitude mountains and sites with different human impacts. On the contrary, 70.5% of NERAs are mainly ineffectively protected by Italian system of protected areas, with 8.6% of areas rich in narrow endemic taxa completely uncovered by protected areas and Natura 2000 networks. The current Italian system of protected areas covers about a quarter (24.7%) of the country (percentage increased in the last decade compared to Rosati et al., 2008, who reported 20.3% of protection for the country), a percentage higher than required by international targets (Watson et al., 2014). Despite this, more efforts should be done to include further ERAs, NERAs and unprotected endemic taxa in protected areas, since from our results it emerges that GSPC Target 5 has been only partly accomplished. For example, the institution of small size protected areas (< 20 ha), defined to protect a population of a single or of a group of narrow endemic, rare or threatened plant taxa, following the Spanish experience (Laguna et al., 2004), could have positive effects on conservation of endemic species and increase the NERAs protection. Moreover, it becomes urgent to develop and put into practice specific conservation measures which are, at present, missing for most of the considered taxa. Finally, more detailed analyses are needed to understand which areas host the highest phylogenetic diversity or the higher evolutionary distinctiveness, as a further element of prioritization of conservation actions (Isaac et al., 2007; Faith, 2008; Jenkins et al., 2014).

5. Conclusions

As a priority action, in situ conservation efforts (e.g., enlargement of

Table 1
List of threatened taxa fully unprotected (i.e.: their AOO is completely outside protected areas) by protected area system.

Taxa	Category	AOO (km^2)
Centaurea corensis Vals. & Filigh.	CR	4
Epipactis zaupolensis (Barbaro & Kreutz) Bongiorni, De Vivo & Fori	CR	4
Genista bocchierii Bacch., Brullo & Feoli Chiapella	CR	4
Limonium catanzaroi Brullo	CR	4
Limonium opulentum (Lojac.) Brullo	CR	4
Limonium sibthorpianum (Guss.) Kuntze	CR	4
Limonium tauromenitanum Brullo	CR	4
Malva stenopetala (Coss. & Durieu ex Batt.) Soldano, Banfi & Galasso subsp. *plazzae* (Atzei) Iamonico, Bartolucci & Peruzzi	CR	24
Rhinanthus helenae Chabert	CR	4
Salvia ceratophylloides Ard.	CR	4
Serapias nurrica Corrias subsp. *santuingensis* (Senis, M.P. Grasso & Orrù) Senis, M.P. Grasso & Orrù	CR	4
Clinopodium raimondoi Spadaro, A.S. Faqi & Mazzola	VU	4
Dianthus vulturius Guss. & Ten. subsp. *aspromontanus* Brullo, Scelsi & Spamp.	VU	4

existing protected areas, institution of new small size protected areas) should be directed to those areas standing out as particular conservation hotspots for Italian endemic plants currently ineffectively protected. Moreover, particular attention should be addressed to NERAs in coastal areas and small islands, as well as in the Alps and in residual high-naturalistic valued hilly and plain sectors. In these areas, monitoring efforts should be strengthened, in order to prevent the erosion of the natural irreplaceable heritage. Secondly, urgent measures should be undertaken to prevent the extinction of endangered species, starting from the 93 taxa classified as Critically Endangered, but possibly extending to all the 300 threatened species, in order to halt or prevent the worsening of their status. For these taxa, conservation measures (e.g., habitat protection, ex situ conservation, population reinforcement) cannot be further postponed.

In general, a conservation-oriented management strategy of the national territory should reduce the human impact, especially in coastal areas, but also should maintain traditional agriculture activities to counteract land abandonment.

Information provided in the present study will be useful in the future to measure trends of the overall extinction risk of endemic plants through the Red List Index (Brummitt et al., 2015).

Further priorities for a successful conservation strategy of Italian endemic vascular plants are:

- Improvement of taxonomic knowledge in apomictic and poorly known genera;
- Improvement of distribution data and population trends, starting from DD species;
- Development and implementation of action plans including conservation actions, legal protection, establishment of new and targeted protected areas, ex situ conservation and translocation.

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Table A1. IUCN Red list status and assessment criteria for the Italian endemic vascular flora.

Family	Taxon	Category	Criteria	Threats
Pinaceae	Abies nebrodensis (Lojac.) Mattei	CR	D	7.1
Sapindaceae	Acer cappadocicum Gled. subsp. lobelii (Ten.) A.E.Murray	LC		
Asteraceae	Achillea barrelieri (Ten.) Sch.Bip. subsp. barrelieri	LC		
Asteraceae	Achillea barrelieri (Ten.) Sch.Bip. subsp. elegans (Fiori) Bazzich.	LC		
Asteraceae	Achillea barrelieri (Ten.) Sch.Bip. subsp. mucronulata (Bertol.) Heimerl	LC		
Asteraceae	Achillea rupestris Porta subsp. calcarea (Porta) Greuter	LC		5.2; 11.1
Asteraceae	Achillea rupestris Porta subsp. rupestris	LC		2.3; 6.1; 7.3
Asteraceae	Achillea tenorei Grande	LC		
Fabaceae	Adenocarpus complicatus (L.) J.Gay subsp. bivonae (C.Presl) Peruzzi	LC		1.3; 4.1; 10.1
Fabaceae	Adenocarpus complicatus (L.) J.Gay subsp. brutius (Brullo, De Marco & Siracusa) Peruzzi & Bernardo	NT		1.3; 2.1; 4.1; 7.3
Fabaceae	Adenocarpus complicatus (L.) J.Gay subsp. commutatus (Guss.) Cout.	EN	A2c+B1ab(iii,iv,v)+2ab(iii,iv,v)	2.3; 4.1; 6.1; 7.1; 7.3
Fabaceae	Adenocarpus complicatus (L.) J.Gay subsp. samniticus (Brullo, De Marco & Siracusa) Peruzzi	LC		4.1
Fabaceae	Adenocarpus complicatus (L.) J.Gay subsp. tenoreanus (Brullo, Gangale & Uzunov) Peruzzi & Bernardo	EN	B1ab(iii,v)+2ab(iii,v)	7.3
Asteraceae	Adenostyles alpina (L.) Bluff & Fingerh. subsp. macrocephala (Huter, Porta & Rigo) Dillenb. & Kadereit	EN	B1ab(iii,v)+2ab(iii,v)	4.1; 5.2; 6.1; 7.3
Asteraceae	Adenostyles alpina (L.) Bluff & Fingerh. subsp. nebrodensis (Wagenitz & I.Müll.) Greuter	CR	B1ab(iii,iv,v)+2ab(iii,iv,v)	7.2
Asteraceae	Adenostyles australis (Ten.) Iamonico & Pign.	LC		
Ranunculaceae	Adonis distorta Ten.	EN	B1ab(i,ii,iv)	5.2; 6.1; 7.3
Adoxaceae	Adoxa moschatellina L. subsp. cescae Peruzzi & N.G.Passal.	LC		
Boraginaceae	Aegonychon calabrum (Ten.) Holub	LC		
Poaceae	Agrostis canina L. subsp. aspromontana Brullo, Scelsi & Spamp.	EN	B2ab(iii,v)	5.2; 6.1; 10.3; 11.1
Poaceae	Agrostis canina L. subsp. monteluccii Selvi	VU	B2ab(iii,v)	2.1; 3.2; 3.3; 4.1; 6.3; 7.3; 9.4; 10.1
Lamiaceae	Ajuga tenorei C.Presl	LC		2.3; 4.1; 6.1
Rosaceae	Alchemilla austroitalica Brullo, Scelsi & Spamp.	VU	D2	
Rosaceae	Alchemilla bonae S.E.Fröhner	DD		
Rosaceae	Alchemilla cavillieri (Briq.) Camus	DD		
Rosaceae	Alchemilla ceroniana Buser	DD		
Rosaceae	Alchemilla cuneata Gaudin	DD		
Rosaceae	Alchemilla diversiloba Buser	DD		
Rosaceae	Alchemilla federiciana S.E.Fröhner	DD		
Rosaceae	Alchemilla lasenii S.E.Fröhner	DD		
Rosaceae	Alchemilla marsica Buser	DD		
Rosaceae	Alchemilla martinii S.E.Fröhner	DD		
Rosaceae	Alchemilla niphogeton Buser ex Pamp.	DD		
Rosaceae	Alchemilla nydeggeriana S.E.Fröhner	DD		
Rosaceae	Alchemilla vaccariana Buser	DD		
Amaryllidaceae	Allium aetnense Brullo, Pavone & Salmeri	LC		1.3; 4.1; 10.1
Amaryllidaceae	Allium agrigentinum Brullo & Pavone	EN	B1ab(iii)+2ab(iii)	7.1
Amaryllidaceae	Allium anzalonei Brullo, Pavone & Salmeri	NT		4.1; 6.1; 7.1
Amaryllidaceae	Allium apulum Brullo, Guglielmo, Pavone & Salmeri	LC		2.3; 2.3; 6.2; 2.3; 7.1
Amaryllidaceae	Allium calabrum (N.Terracc.) Brullo, Pavone & Salmeri	NT		6.1; 7.1; 7.3
Amaryllidaceae	Allium castellanense (Garbari, Miceli & Raimondo) Brullo, Guglielmo, Pavone & Salmeri	EN	D	4.1; 4.2
Amaryllidaceae	Allium cupanii Raf.	LC		1.3; 2.3; 4.1
Amaryllidaceae	Allium diomedeum Brullo, Guglielmo, Pavone & Salmeri	NT		6.1; 7.1
Amaryllidaceae	Allium franciniae Brullo & Pavone	NT		11
Amaryllidaceae	Allium garbarii Peruzzi	NT		
Amaryllidaceae	Allium garganicum Brullo, Pavone, Salmeri & Terrasi	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	2.3; 6.1; 7.1; 12.1

Amaryllidaceae	Allium hemisphaericum (Sommier) Brullo	VU	D2	
Amaryllidaceae	Allium insubricum Boiss. & Reut.	LC		1.3; 5.2; 6.1; 10.3
Amaryllidaceae	Allium julianum Brullo, Gangale & Uzunov	EN	D	1.1; 1.3; 6.1; 7.1
Amaryllidaceae	Allium lehmannii Lojac.	NT		6.1; 7
Amaryllidaceae	Allium lopadusanum Bartolo, Brullo & Pavone	EN	D	5.2; 6.1
Amaryllidaceae	Allium nebrodense Guss.	VU	D2	2.3
Amaryllidaceae	Allium obtusiflorum DC.	NT		1.3; 2;1; 2.3; 4.1; 9.4
Amaryllidaceae	Allium panormitatum Brullo, Pavone & Salmeri	LC		1.1; 4.1; 7.1;
Amaryllidaceae	Allium pelagicum Brullo, Pavone & Salmeri	NT		1.1; 1.3; 2.3; 6.3
Amaryllidaceae	Allium pentadactyli Brullo, Pavone & Spamp.	NT		1.1; 2.1; 6.1; 7.3; 8.1
Amaryllidaceae	Allium samniticum Brullo, Pavone & Salmeri	LC		
Amaryllidaceae	Allium sphaerocephalon L. subsp. laxiflorum (Guss.) Giardina & Raimondo	DD		
Amaryllidaceae	Allium vernale Tineo	VU	D2	1.3
Brassicaceae	Alyssum diffusum Ten. subsp. calabricum Španiel, Marhold, N.G.Passal. & Lihová	LC		
Brassicaceae	Alyssum diffusum Ten. subsp. diffusum	LC		
Brassicaceae	Alyssum diffusum Ten. subsp. garganicum Španiel, Marhold, N.G.Passal. & Lihová	LC		
Boraginaceae	Anchusa capellii Moris	NT		2.2; 2.3; 6.1
Boraginaceae	Anchusa crispa Viv. subsp. maritima (Vals.) Selvi & Bigazzi	EN	B2ab(i,ii,iv,v)	1.3: 7.3
Boraginaceae	Anchusa litorea Moris	CR	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	1.3; 6.1
Boraginaceae	Anchusa montelinasana Angius, Pontec. & Selvi	NT		2.2; 2.3; 7.1
Boraginaceae	Anchusa sardoa (Illario) Selvi & Bigazzi	CR	B1ab(ii,iii,v)+2ab(v)	1.3; 6.1
Primulaceae	Androsace mathildae Levier	LC		
Primulaceae	Androsace vitaliana (L.) Lapeyr. subsp. praetutiana (Buser ex Sünd.) Kress	LC		
Ranunculaceae	Anemonoides trifolia (L.) Holub subsp. brevidentata (Ubaldi & Puppi) Galasso, Banfi & Soldano	LC		5.3
Asteraceae	Anthemis aeolica Lojac.	CR	A2ace	8.4; 10.3
Asteraceae	Anthemis aetnensis Spreng.	NT		1.1; 1.3
Asteraceae	Anthemis arvensis L. subsp. sphacelata (C.Presl) R.Fern.	LC		2.1; 2.3; 4.1; 10.1
Asteraceae	Anthemis cretica L. subsp. alpina (L.) R.Fern.	LC		
Asteraceae	Anthemis cretica L. subsp. calabrica (Arcang.) R.Fern.	LC		
Asteraceae	Anthemis cretica L. subsp. messanensis (Brullo) Giardina & Raimondo	CR	D	7.3
Asteraceae	Anthemis cretica L. subsp. petraea (Ten.) Greuter	LC		
Asteraceae	Anthemis cupaniana Tod. ex Nyman	NT		7.1; 10.3
Asteraceae	Anthemis hydruntina E.Groves subsp. hydruntina	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 2.1
Asteraceae	Anthemis hydruntina E.Groves subsp. silensis (Fiori) Brullo, Gangale & Uzunov	DD		
Asteraceae	Anthemis ismelia Lojac.	VU	D2	7.1; 10.3
Asteraceae	Anthemis muricata (DC.) Guss.	VU	D2	2.1; 2.3; 7.1; 7.2; 9.3
Asteraceae	Anthemis pignattiorum Guarino, Raimondo & Domina	EN	C2b	6.1; 7.1
Fabaceae	Anthyllis hermanniae L. subsp. brutia Brullo & Giusso	CR	B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v)	1.3; 2.2; 2.3; 4.1; 6.1; 7.1; 8.1; 9.4
Fabaceae	Anthyllis hermanniae L. subsp. ichnusae Brullo & Giusso	LC		
Fabaceae	Anthyllis hermanniae L. subsp. japygica Brullo & Giusso	CR	B1ab(iii,v)+2ab(iii,v)	6.1
Fabaceae	Anthyllis hermanniae L. subsp. sicula Brullo & Giusso	EX		
Fabaceae	Anthyllis vulneraria L. subsp. busambarensis (Lojac.) Pignatti	NT		2.3; 9.3
Fabaceae	Anthyllis vulneraria L. subsp. nana (Ten.) Tammaro	LC		
Plantaginaceae	Antirrhinum siculum Mill.	LC		4.1; 5.2
Ranunculaceae	Aquilegia apuana (Marchetti) E.Nardi	LC		
Ranunculaceae	Aquilegia barbaricina Arrigoni & E.Nardi	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	2.2; 2.3; 7.3; 10.3
Ranunculaceae	Aquilegia bertolonii Schott	NT		3.2; 7.3
Ranunculaceae	Aquilegia champagnatii Moraldo, E.Nardi & La Valva	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 5.2; 5.3; 10.3
Ranunculaceae	Aquilegia cremnophila Bacch., Brullo, Congiu, Fenu, J.Garrido & Mattana	CR	B1ab(iii,v)+2ab(iii,v)	2.3; 5.2; 10.3

Ranunculaceae	Aquilegia lucensis E.Nardi	NT		5.2; 6.1
Ranunculaceae	Aquilegia magellensis F.Conti & Soldano	NT		4.1; 11.2
Ranunculaceae	Aquilegia marcelliana E.Nardi	DD		
Ranunculaceae	Aquilegia nugorensis Arrigoni & E.Nardi	EN	B1ab(iii,v)+2ab(iii,v)	2.2; 2.3; 6.1
Ranunculaceae	Aquilegia nuragica Arrigoni & E.Nardi	CR	B1ab(ii,iii,v)+2ab(ii,iii,v)+D	1.3; 6.1; 10.3
Ranunculaceae	Aquilegia ophiolitica Barberis & E.Nardi	NT		5.2; 6.1
Ranunculaceae	Aquilegia sicula (Strobl) E.Nardi	LC		
Brassicaceae	Arabidopsis pedemontana (Boiss.) O'Kane & Al-Shehbaz	NT		10.3; 11
Brassicaceae	Arabis collina Ten. subsp. rosea (DC.) Minuto	LC		7.3; 10.3
Brassicaceae	Arabis madonia C.Presl	DD		
Caryophyllaceae	Arenaria huteri A.Kern.	LC		6.1
Aristolochiaceae	Aristolochia sicula Tineo	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	8.1
Plumbaginaceae	Armeria arenaria (Pers.) Schult. subsp. apennina Arrigoni	DD		
Plumbaginaceae	Armeria arenaria (Pers.) Schult. subsp. marginata (Levier) Arrigoni	LC		1.3; 6.1
Plumbaginaceae	Armeria aspromontana Brullo, Scelsi & Spamp.	LC		7.3
Plumbaginaceae	Armeria brutia Brullo, Gangale & Uzunov	LC		7.3
Plumbaginaceae	Armeria denticulata (Bertol.) DC.	LC		2.2; 3.2; 7.3
Plumbaginaceae	Armeria garganica Arrigoni	LC		2.3; 7.3
Plumbaginaceae	Armeria gracilis Ten. subsp. gracilis	DD		
Plumbaginaceae	Armeria gracilis Ten. subsp. majellensis (Boiss.) Arrigoni	LC		
Plumbaginaceae	Armeria gussonei Boiss.	NT		
Plumbaginaceae	Armeria helodes F.Martini & Poldini	EN	B1ab(iii)+2ab(iii)	7.2; 9.3
Plumbaginaceae	Armeria macropoda Boiss.	DD		
Plumbaginaceae	Armeria morisii Boiss.	LC		
Plumbaginaceae	Armeria nebrodensis (Guss.) Boiss.	LC		10.3
Plumbaginaceae	Armeria sardoa Spreng. subsp. genargentea Arrigoni	NT		2.3
Plumbaginaceae	Armeria sardoa Spreng. subsp. sardoa	NT		2.2; 2.3
Plumbaginaceae	Armeria saviana Selvi	EN	B1ab(iii)+2ab(iii)	7.3
Plumbaginaceae	Armeria sulcitana Arrigoni	LC		
Poaceae	Arrhenatherum elatius (L.) P.Beauv. ex J.Presl & C.Presl subsp. nebrodense (Brullo, Miniss. & Spamp.) Giardina & Raimondo	NT		2.3; 4.1; 10.1
Asteraceae	Artemisia caerulescens L. subsp. cretacea (Fiori) Brilli-Catt. & Gubellini	LC		6.3
Asteraceae	Artemisia campestris L. subsp. variabilis (Ten.) Greuter	NT		1.1; 4.1; 7.1; 8.1; 9.1
Araceae	Arum apulum (Carano) P.C.Boyce	NT		2.3; 5.2; 6.2; 7.1
Rubiaceae	Asperula apuana (Fiori) Arrigoni	LC		1; 3.2; 4.1; 11
Rubiaceae	Asperula aristata L.f. subsp. calabra (Fiori) Del Guacchio & P.Caputo	LC		
Rubiaceae	Asperula crassifolia L.	VU	B1ab(iii)+2ab(iii)	1.3; 10.3
Rubiaceae	Asperula cynanchica L. subsp. neglecta (Guss.) Arcang.	LC		
Rubiaceae	Asperula deficiens Viv.	NT		6.2
Rubiaceae	Asperula garganica Huter ex Ehrend. & Krendl	NT		5.2
Rubiaceae	Asperula gussonei Boiss.	LC		2.3
Rubiaceae	Asperula lactea (Huter, Porta & Rigo ex Galasso) Brullo, Gargano, N.G.Passal. & Peruzzi	NT		5; 7.3
Rubiaceae	Asperula peloritana C.Brullo, Brullo, Giusso & Scuderi	EN	D	2.3; 6.1
Rubiaceae	Asperula pumila Moris	LC		
Rubiaceae	Asperula rupestris Tineo	NT		1.1; 1.3
Rubiaceae	Asperula staliana Vis. subsp. diomedea Korica, Lausi & Ehrend.	EN	B2ab(iii,v)	1.3; 6.1; 7.3
Aspleniaceae	Asplenium adulterinum Milde subsp. presolanense Mokry, Rasbach & Reichst.	CR	B2ab(v)	5.2; 6.1
Fabaceae	Astragalus aquilanus Anzal.	EN	B1ab(i,ii,v)+2ab(i,ii,v)	7.3
Fabaceae	Astragalus caprinus L. subsp. huetii (Bunge) Podlech	LC		1.1; 1.3; 7.1
Fabaceae	Astragalus genargenteus Moris	LC		1.3; 2.3; 4.1; 6.1; 7.1

Fabaceae	Astragalus gennarii Bacch. & Brullo	CR	B1ab(iii,v)+2ab(iii,v)+D	10.3; 6.1
Fabaceae	Astragalus kamarinensis C.Brullo, Brullo, Giusso, Miniss. & Sciandr.	EN	D	2.1; 2.3; 4.1
Fabaceae	Astragalus maritimus Moris	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	1.3; 4.1; 6.1; 7.3
Fabaceae	Astragalus muelleri Steud. & Höchst. subsp. etruscus Peruzzi, Gestri & Pierini	LC		
Fabaceae	Astragalus nebrodensis (Guss.) Strobl	NT		1.3; 2.3; 6.1; 7.1; 11.1
Fabaceae	Astragalus parnassi Boiss. subsp. calabricus (Fisch.) Maassoumi	LC		7
Fabaceae	Astragalus raphaelis G.Ferro	CR	B1ab(iii,v)	6.1
Fabaceae	Astragalus siculus Biv.	NT		1.3; 2.3; 4.1; 4.2; 6.1; 7.1; 10.1; 11.1
Fabaceae	Astragalus sirinicus Ten.	LC		
Fabaceae	Astragalus tegulensis Bacch. & Brullo	CR	B1ab(ii,iii,v)+2ab(ii,iii,v)+C1	1.2; 6.1; 6.2; 7.3
Fabaceae	Astragalus thermensis Vals.	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 4.1; 6.1; 8.1
Fabaceae	Astragalus verrucosus Moris	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	1.3; 6.1; 7.3
Apiaceae	Astrantia pauciflora Bertol. subsp. pauciflora	LC		3.2; 11.1
Apiaceae	Astrantia pauciflora Bertol. subsp. tenorei (Mariotti) Bechi & Garbari	DD		
Campanulaceae	Asyneuma trichocalycinum (Ten.) K.Malý	LC		2.3
Apiaceae	Athamanta cortiana Ferrarini	CR	B1b(ii)c(iv)	3.2; 7.3; 11.1
Brassicaceae	Aubrieta columnae Guss. subsp. columnae	NT		10.3
Brassicaceae	Aubrieta columnae Guss. subsp. italica (Boiss.) Mattf.	EN	B1ab(i,ii,iii)+2ab(i,ii,iii)	1.1; 6.1
Brassicaceae	Aubrieta columnae Guss. subsp. sicula (Strobl) M.A.Koch, D.A.German & R.Karl	VU	D2	9.3; 11
Poaceae	Bellardiochloa variegata (Lam.) Kerguélen subsp. aetnensis (C.Presl) Giardina & Raimondo	NT		10.1
Poaceae	Bellardiochloa variegata (Lam.) Kerguélen subsp. nebrodensis (Asch. & Graebn.) C.Brullo, Brullo, Giusso & Sciandr.	LC		
Asparagaceae	Bellevalia dubia (Guss.) Rchb.	NT		1.1; 2.1; 2.3; 4.1; 9.3
Asparagaceae	Bellevalia pelagica C.Brullo, Brullo & Pasta	NT		7
Asparagaceae	Bellevalia webbiana Parl.	EN	A2c	7.3; 8.2
Asteraceae	Bellis margaritifolia Huter, Porta & Rigo	LC		1.1; 1.3; 7.1
Asteraceae	Bellium crassifolium Moris	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 4.1; 6.1
Lamiaceae	Betonica alopecuros L. subsp. divulsa (Ten.) Bartolucci & Peruzzi	LC		
Betulaceae	Betula etnensis Raf.	VU	D2	1.3; 4.1; 7.1; 10.1
Brassicaceae	Biscutella apuana Raffaelli	LC		3.2; 4.1; 7.3
Brassicaceae	Biscutella incana Ten.	EN	B1ab(iii,v)+2ab(iii,v)	4.1; 7.1; 7.3
Brassicaceae	Biscutella laevigata L. subsp. australis Raffaelli & Baldoin	LC		
Brassicaceae	Biscutella laevigata L. subsp. lucida (Balb. ex DC.) Arcang.	DD		
Brassicaceae	Biscutella laevigata L. subsp. ossolana Raffaelli & Baldoin	LC		
Brassicaceae	Biscutella laevigata L. subsp. prinzerae Raffaelli & Baldoin	LC		3.2
Brassicaceae	Biscutella laevigata L. subsp. raffaelliana Galasso & Banfi	NT		6.1; 7.3
Brassicaceae	Biscutella maritima Ten.	NT		1.1; 1.3; 2.1; 2.3; 3.2; 4.1; 7.3
Brassicaceae	Biscutella mollis Loisel.	EN	B1ab(iii)+2ab(iii)	3.2; 7.3
Brassicaceae	Biscutella morisiana Raffaelli	LC		
Brassicaceae	Biscutella pichiana Raffaelli subsp. ilvensis Raffaelli	EN	B1ab(iii)+2ab(iii)	1.3; 6.1
Brassicaceae	Biscutella pichiana Raffaelli subsp. pichiana	LC		2.2; 3.2; 4.1
Brassicaceae	Biscutella prealpina Raffaelli & Baldoin	LC		
Fabaceae	Bituminaria basaltica Miniss., C.Brullo, Brullo, Giusso & Sciandr.	VU	D2	1.1; 1.3; 2.1; 4.1; 7.1
Boraginaceae	Borago morisiana Bigazzi & Ricceri	EN	B2ab(iii,v)	2.2; 2.3; 4.1; 6.1; 7.3; 8.2
Poaceae	Brachypodium genuense (DC.) Roem. & Schult.	LC		
Brassicaceae	Brassica baldensis (Prosser & Bertolli) Prosser & Bertolli	VU	D1	7.3
Brassicaceae	Brassica glabrescens Poldini	NT		3.2; 7.3
Brassicaceae	Brassica macrocarpa Guss.	CR	B1ab(ii,iv)+2ab(ii,iv)	1.3; 2.2; 2.3; 4.1; 6.1; 7.1
Brassicaceae	Brassica rupestris Raf. subsp. hispida Raimondo & Mazzola	VU	D2	7.1; 10.3
Brassicaceae	Brassica rupestris Raf. subsp. rupestris	LC		7.1; 8.1; 10.3

Brassicaceae	Brassica trichocarpa C.Brullo, Brullo, Giusso & Ilardi	NT		6; 7.1
Brassicaceae	Brassica tyrrhena Giotta, Piccitto & Arrigoni	LC		6.1
Brassicaceae	Brassica villosa Biv. subsp. bivonana (Mazzola & Raimondo) Raimondo & Mazzola	LC		7.1; 10.3
Brassicaceae	Brassica villosa Biv. subsp. brevisiliqua (Raimondo & Mazzola) Raimondo & Geraci	NT		7.1; 10.3
Brassicaceae	Brassica villosa Biv. subsp. drepanensis (Caruel) Raimondo & Mazzola	VU	D2	7.1; 10.3
Brassicaceae	Brassica villosa Biv. subsp. tineoi (Lojac.) Raimondo & Mazzola	LC		7.1; 10.3
Brassicaceae	Brassica villosa Biv. subsp. villosa	LC		7.1; 10.3
Poaceae	Bromopsis caprina (A.Kern. ex Hack.) Banfi & N.G.Passal.	LC		7.3
Boraginaceae	Buglossoides incrassata (Guss.) I.M.Johnst. subsp. splitgerberi (Guss.) E.Zippel & Selvi	VU	D2	2.3; 10.1
Boraginaceae	Buglossoides minima (Moris) R.Fern.	NT		2.3; 7.3
Apiaceae	Bunium petraeum Ten.	LC		11
Asteraceae	Buphthalmum inuloides Moris	LC		3.2; 7.1; 7.3
Asteraceae	Buphthalmum salicifolium L. subsp. flexile (Bertol.) Garbari	LC		
Apiaceae	Bupleurum dianthifolium Guss.	VU	D1	6.1; 7.1; 8.2
Apiaceae	Bupleurum elatum Guss.	VU	D2	10.3
Apiaceae	Bupleurum gussonei (Arcang.) Snogerup & B.Snogerup	NT		4.1; 7.3
Apiaceae	Bupleurum rollii (Montel.) Moraldo	EN	B2ab(iii,v)	4.1; 7.1; 7.3; 10.3
Asteraceae	Calendula suffruticosa Vahl subsp. maritima (Guss.) Meikle	EN	A2c+B1ab (i,ii,iv,v)+2ab (i,ii,iv,v)	1.1; 1.2; 1.3; 4.1; 6.1; 9.1; 9.4
Ranunculaceae	Callianthemum kernerianum Freyn ex A.Kern.	CR	B1ab(ii,iii)	5.2; 6.1; 7.3
Campanulaceae	Campanula bertolae Colla	LC		
Campanulaceae	Campanula carnica Mert. & W.D.J.Koch subsp. puberula Podlech	LC		2.3.1; 4.1.;6.1; 11.1
Campanulaceae	Campanula elatines L.	LC		
Campanulaceae	Campanula elatinoides Moretti	LC		5.2; 6.1;10.3
Campanulaceae	Campanula forsythii (Arcang.) Bég.	LC		
Campanulaceae	Campanula fragilis Cirillo subsp. cavolinii (Ten.) Damboldt	LC		5.2; 6.1
Campanulaceae	Campanula fragilis Cirillo subsp. fragilis	LC		1.1
Campanulaceae	Campanula garganica Ten. subsp. garganica	VU	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	5.2
Campanulaceae	Campanula isophylla Moretti	NT		6.1
Campanulaceae	Campanula martinii F.Fen., Pistarino, Peruzzi & Cellin.	LC		
Campanulaceae	Campanula micrantha Bertol.	LC		2.3; 5.2
Campanulaceae	Campanula morettiana Rchb.	LC		
Campanulaceae	Campanula petraea L.	LC		
Campanulaceae	Campanula raineri Perp.	LC		6.1; 10.3; 11.1
Campanulaceae	Campanula reatina Lucchese	NT		6.1; 8.2; 10.3
Campanulaceae	Campanula sabatia De Not.	VU	C1	1.1; 1.3; 7.3
Campanulaceae	Campanula scheuchzeri Vill. subsp. pollinensis (Podlech) Bernardo, Gargano & Peruzzi	LC		6.1
Campanulaceae	Campanula scheuchzeri Vill. subsp. pseudostenocodon (Lacaita) Bernardo, Gargano & Peruzzi	LC		
Campanulaceae	Campanula tanfanii Podlech	LC		
Brassicaceae	Cardamine apennina Lihová & Marhold	EN	B1ab(iii,v)+2ab(iii,v)	2; 7.2
Brassicaceae	Cardamine battagliae Cesca & Peruzzi	NT		5; 7.3
Brassicaceae	Cardamine dubia Nicotra	DD		
Brassicaceae	Cardamine granulosa All.	CR	B1ab(v)+2ab(v)	7.3
Brassicaceae	Cardamine monteluccii Brilli-Catt. & Gubellini	NT		2.3
Brassicaceae	Cardamine silana Marhold & Perný	EN	B2ab(iii)	2; 7
Asteraceae	Carduus affinis Guss. subsp. affinis	LC		7.3
Asteraceae	Carduus affinis Guss. subsp. brutius (Fiori) Kazmi	LC		
Asteraceae	Carduus corymbosus Ten.	LC		1.1; 1.3; 7.1
Asteraceae	Carduus membranaceus Lojac.	DD		
Asteraceae	Carduus nutans L. subsp. perspinosus (Fiori) Arènes	LC		7.1

Asteraceae	Carduus nutans L. subsp. siculus (Franco) Greuter	NT		1.1; 2.3; 4.1; 10.1
Asteraceae	Carduus pycnocephalus L. subsp. intermedius (Lojac.) Giardina & Raimondo	LC		
Cyperaceae	Carex macrostachys Bertol.	LC		
Asteraceae	Carlina hispanica Lam. subsp. globosa (Arcang.) Meusel & Kästner	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1; 7.3
Asteraceae	Carlina nebrodensis Guss. ex DC.	LC		1.1; 1.3
Asteraceae	Carlina sicula Ten. subsp. sicula	LC		1.1; 1.3; 4.1
Amaranthaceae	Caroxylon agrigentinum (Guss.) C.Brullo, Brullo, Giusso, Guarino & Iamonico	LC		
Apiaceae	Carum appuanum (Viv.) Grande subsp. appuanum	LC		1; 3; 11
Asteraceae	Castroviejoa montelinasana (Em.Schmid) Galbany, L.Sáez & Benedí	LC		
Cannabaceae	Celtis tournefortii Lam. subsp. aetnensis (Tornab.) Raimondo & Schicchi	NT		1.1; 7.1;
Cannabaceae	Celtis tournefortii Lam. subsp. asperrima (Lojac.) Raimondo & Schicchi	LC		7.1
Asteraceae	Centaurea aegusae Domina, Greuter & Raimondo	NT		
Asteraceae	Centaurea aeolica Guss. ex Lojac. subsp. aeolica	LC		
Asteraceae	Centaurea aeolica Guss. ex Lojac. subsp. pandataria (Fiori & Bég.) Anzal.	NT		6.1
Asteraceae	Centaurea aetaliae (Sommier) Bég.	EN	B2ab(iii)	2.3; 4.1; 5.2; 8.1
Asteraceae	Centaurea ambigua Guss. subsp. ambigua	LC		
Asteraceae	Centaurea ambigua Guss. subsp. laciniata (Guss. ex DC.) Arcang.	LC		
Asteraceae	Centaurea ambigua Guss. subsp. nigra (Fiori) Pignatti	LC		
Asteraceae	Centaurea aplolepa Moretti subsp. aplolepa	LC		
Asteraceae	Centaurea aplolepa Moretti subsp. bertolonii (Arrigoni) Greuter	DD		
Asteraceae	Centaurea aplolepa Moretti subsp. carueliana (Micheletti) Dostál	LC		
Asteraceae	Centaurea aplolepa Moretti subsp. cosana (Fiori) Dostál	LC		2.2.1; 3.2; 7.3
Asteraceae	Centaurea aplolepa Moretti subsp. gallinariae (Briq. & Cavill.) Dostál	CR	B1ab(iii)+2ab(iii)+D	7.3; 8.2
Asteraceae	Centaurea aplolepa Moretti subsp. levantina (Arrigoni) Greuter	LC		
Asteraceae	Centaurea aplolepa Moretti subsp. lunensis (Fiori) Dostál	LC		
Asteraceae	Centaurea aplolepa Moretti subsp. maremmana (Fiori) Dostál	LC		3.2
Asteraceae	Centaurea aplolepa Moretti subsp. parvula (Ces.) Arcang.	DD		
Asteraceae	Centaurea aplolepa Moretti subsp. subciliata (DC.) Arcang.	EN	A1ac	5; 7
Asteraceae	Centaurea arachnoidea Viv. subsp. arachnoidea	LC		3; 11
Asteraceae	Centaurea arachnoidea Viv. subsp. montis-ferrati Ricceri, Moraldo & F.Conti	EN	B1ab(iii)+2ab(iii)	2.2; 5.2
Asteraceae	Centaurea arrigonii Greuter	DD		
Asteraceae	Centaurea aspromontana Brullo, Scelsi & Spamp.	LC		
Asteraceae	Centaurea brulla Greuter	LC		
Asteraceae	Centaurea bugellensis (Soldano) Soldano	LC		
Asteraceae	Centaurea busambarensis Guss.	VU	D2	7.1; 10.3
Asteraceae	Centaurea calabra G.Caruso, S.A.Giardina, Raimondo & Spadaro	LC		7.3; 10.3
Asteraceae	Centaurea centauroides L.	NT		2.3; 4.1
Asteraceae	Centaurea ceratophylla Ten. subsp. ceratophylla	LC		
Asteraceae	Centaurea cineraria L. subsp. cineraria	NT		1.3; 7.1; 7.3
Asteraceae	Centaurea cineraria L. subsp. circae (Sommier) Cela Renz. & Viegi	NT		6.1; 8.1
Asteraceae	Centaurea corensis Vals. & Filigh.	CR	B2ab(i,iii)	1.3; 3.2; 4.1; 7.3
Asteraceae	Centaurea diomedea Gasp.	EN	B1ab(iii,v)+2ab(iii,v)	1; 6; 5
Asteraceae	Centaurea erycina Raimondo & Bancheva	CR	C2a(i,ii)+D	8
Asteraceae	Centaurea filiformis Viv. subsp. ferulacea (Martelli) Arrigoni	EN	B1ab(iii,v)+2ab(iii,v)	2; 6; 10
Asteraceae	Centaurea filiformis Viv. subsp. filiformis	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 2.3; 6.1; 10.3
Asteraceae	Centaurea giardinae Raimondo & Spadaro	NT		6.1
Asteraceae	Centaurea gussonei Raimondo & Spadaro	VU	D2	7.1; 10.3
Asteraceae	Centaurea gymnocarpa Moris & De Not.	EN	B1ab(iii)+2ab(iii)	6.1; 8.1
Asteraceae	Centaurea horrida Badarò	EN	B1ab(iii)+2ab(iii)	1.3; 7.3; 8.1; 8.2

Asteraceae	Centaurea iapygica (Lacaita) Brullo	NT		4.1
Asteraceae	Centaurea ilvensis (Sommier) Arrigoni	VU	B1ab(iii)+2ab(iii)	2.3; 4.1; 5.2; 7.3
Asteraceae	Centaurea ionica Brullo	LC		4.1
Asteraceae	Centaurea jacea L. subsp. forojulensis (Poldini) Greuter	EN	B1ab(iii,v)+2ab(iii,v)	2.1; 7.2; 7.3; 9.3
Asteraceae	Centaurea kartschiana Scop. subsp. kartschiana	LC		1.1; 1.2; 6
Asteraceae	Centaurea lacaitae Peruzzi	DD		
Asteraceae	Centaurea leucadea Lacaita	NT		6.1
Asteraceae	Centaurea leucophaea Jord. subsp. brunnescens (Briq.) Dostál	DD		
Asteraceae	Centaurea litigiosa (Fiori) Arrigoni	LC		
Asteraceae	Centaurea macroacantha Guss.	LC		1.1; 4.1
Asteraceae	Centaurea magistrorum Arrigoni & Camarda	CR	B1ab(iii,v)+2ab(iii,v)	2.2.; 2.3.; 4.1.; 7.1; 7.3
Asteraceae	Centaurea montaltensis (Fiori & Bég.) Peruzzi	DD		
Asteraceae	Centaurea montis-borlae Soldano	VU	D2	2.3; 3.2; 6.1; 7.1; 8.2
Asteraceae	Centaurea nigrescens Willd. subsp. neapolitana (Boiss.) Dostál	DD		
Asteraceae	Centaurea nigrescens Willd. subsp. pinnatifida (Fiori) Dostál	DD		
Asteraceae	Centaurea nobilis (E.Groves) Brullo	NT		6.1
Asteraceae	Centaurea panormitana Lojac.	VU	D1	6.1; 7
Asteraceae	Centaurea parlatoris Heldr. subsp. parlatoris	LC		2.3; 4.1; 7.1
Asteraceae	Centaurea parlatoris Heldr. subsp. virescens (Guss.) Raimondo & Bancheva	NT		2.3; 7.1
Asteraceae	Centaurea pentadactyli Brullo, Scelsi & Spamp.	NT		
Asteraceae	Centaurea poeltiana Puntillo	LC		7.3
Asteraceae	Centaurea saccensis Raimondo, Bancheva & Ilardi	VU	D2	7.1; 10.3
Asteraceae	Centaurea sarfattiana Brullo, Gangale & Uzunov	LC		2.3; 7.3
Asteraceae	Centaurea scannensis Anzal., Soldano & F.Conti	EN	B1ab(iii,v)+2ab(iii,v)	4.1; 8.2
Asteraceae	Centaurea scillae Brullo	EN	B1ab(iii,v)+2ab(iii,v)	5.2; 7.3
Asteraceae	Centaurea seguenzae (Lacaita) Domina, Greuter & Raimondo	NT		7.1; 8.1; 10.3
Asteraceae	Centaurea sicana Raimondo & Spadaro	NT		2.3; 7.1; 10.3
Asteraceae	Centaurea subtilis Bertol.	LC		1.1; 6.1; 7.1
Asteraceae	Centaurea tauromenitana Guss.	VU	B1ab(iii)+2ab(iii)	1.1; 8.2
Asteraceae	Centaurea tenacissima (E.Groves) Brullo	NT		1; 1.3; 2.1; 5.2; 7.3
Asteraceae	Centaurea tenoreana Willk.	LC		
Asteraceae	Centaurea tenorei Guss. ex Lacaita	DD		
Asteraceae	Centaurea todaroi Lacaita	NT		7.1; 10.3
Asteraceae	Centaurea tyrrhena C.Brullo, Brullo & Giusso	NT		7.1; 10.3
Asteraceae	Centaurea veneris (Sommier) Bég.	NT		5.2; 8.2
Valerianaceae	Centranthus amazonum Fridl. & A.Raynal	CR	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)+D	2.3; 7.3; 10.3
Caprifoliaceae	Cephalaria mediterraenea (Viv.) Szabó	LC		6.1; 10.3
Caprifoliaceae	Cephalaria squamiflora (Sieber) Greuter subsp. bigazzii (Bacch., Brullo & Giusso) Domina	CR	B1ab(ii,iii,v)+2ab(ii,iii,v)+C1	6.1; 10.2; 10.3
Caryophyllaceae	Cerastium apuanum Parl.	LC		1.2; 1.3; 4; 11
Caryophyllaceae	Cerastium granulatum (Huter, Porta & Rigo) Porta	NT		7.3
Caryophyllaceae	Cerastium lacaitae Barberis, Bechi & Miceli	LC		2.3; 10.3
Caryophyllaceae	Cerastium palustre Moris	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 7.2
Caryophyllaceae	Cerastium pospichalii Soldano & F.Conti	CR(PE)		
Caryophyllaceae	Cerastium scaranoi Ten.	LC		2.3
Caryophyllaceae	Cerastium supramontanum Arrigoni	NT		2.3; 6.1; 10.3
Caryophyllaceae	Cerastium thomasii Ten.	LC		
Caryophyllaceae	Cerastium tomentosum L.	LC		2.3; 5.2
Caryophyllaceae	Cerastium utriense Barberis	LC		5.2
Apiaceae	Chaerophyllum magellense Ten.	LC		7.3

Caryophyllaceae	Cherleria laricifolia (L.) Iamonico subsp. ophiolitica (Pignatti) Iamonico	LC		2.2.1; 3.2; 7.3
Asteraceae	Chiliadenus lopadusanus Brullo	LC		1.3; 6.1
Asteraceae	Cirsium alpis-lunae Brilli-Catt. & Gubellini	LC		7.3
Asteraceae	Cirsium bertolonii Spreng.	LC		7.3
Asteraceae	Cirsium lacaitae Petr.	NT		4.2; 6.1; 7.3
Asteraceae	Cirsium lobelii Ten.	DD		
Asteraceae	Cirsium tenoreanum Petr.	LC		
Asteraceae	Cirsium vallis-demonii Lojac.	NT		7.2; 7.3; 8.1
Ranunculaceae	Clematis rigoi W.T.Wang	DD		
Lamiaceae	Clinopodium alpinum (L.) Kuntze subsp. nebrodense (A.Kern. & Strobl) Bartolucci & F.Conti	LC		2.3; 4.1; 9.3
Lamiaceae	Clinopodium minae (Lojac.) Peruzzi & F.Conti	DD		
Lamiaceae	Clinopodium raimondoi Spadaro, A.S.Faqi & Mazzola	VU	D2	1.1
Lamiaceae	Clinopodium sandalioticum (Bacch. & Brullo) Bacch. & Brullo ex Peruzzi & F.Conti	CR	B2ab(ii,iii,v)	6.1; 10.3
Lamiaceae	Clinopodium sardoum (Asch. & Levier) Peruzzi & F.Conti	LC		6.1; 10.3
Colchicaceae	Colchicum gonarei Camarda	LC		
Colchicaceae	Colchicum neapolitanum (Ten.) Ten. subsp. gracile (K.Perss.) Fridl.	DD		
Colchicaceae	Colchicum neapolitanum (Ten.) Ten. subsp. neapolitanum	LC		
Colchicaceae	Colchicum verlaqueae Fridl.	DD		
Apiaceae	Coristospermum cuneifolium (Guss.) Bertol.	LC		6.1
Papaveraceae	Corydalis densiflora C.Presl	LC		7.3
Rosaceae	Cotoneaster nebrodensis (Guss.) K.Koch	NT		7.3
Rosaceae	Crataegus insegnae (Tineo) Bertol.	LC		1.1; 7.1
Asteraceae	Crepis apula (Fiori) Babc.	NT		2.1; 4.1; 7.3; 9.3
Asteraceae	Crepis aspromontana Brullo, Scelsi & Spamp.	LC		4.1; 7.1; 7.3
Asteraceae	Crepis magellensis F.Conti & Uzunov	NT		11
Asteraceae	Crepis sprengeli Nicotra	LC		
Asteraceae	Crepis vesicaria L. subsp. bivonana (Soldano & F.Conti) Giardina & Raimondo	LC		2.3
Asteraceae	Crepis vesicaria L. subsp. hyemalis (Biv.) Babc.	NT		1.1; 1.3; 2.1; 2.3; 4.1; 6.1
Iridaceae	Crocus biflorus Mill.	LC		1.1; 2.1; 2.3; 3.3; 4.1; 6.1
Iridaceae	Crocus etruscus Parl.	NT		7.3
Iridaceae	Crocus ilvensis Peruzzi & Carta	EN	B1ab(iii,v)+2ab(iii,v)	7.3; 8.1
Iridaceae	Crocus imperati Ten.	LC		7.3
Iridaceae	Crocus siculus Tineo ex Guss.	LC		
Iridaceae	Crocus suaveolens Bertol.	LC		5.3; 6.1; 7.3
Apiaceae	Cryptotaenia thomasii (Ten.) DC.	EN	B2ab(iii,v)	2; 6; 7; 8
Plantaginaceae	Cymbalaria glutinosa Bigazzi & Raffaelli subsp. brevicalcarata Bigazzi & Raffaelli	DD		
Plantaginaceae	Cymbalaria glutinosa Bigazzi & Raffaelli subsp. glutinosa	LC		
Plantaginaceae	Cymbalaria pallida (Ten.) Wettst.	LC		
Plantaginaceae	Cymbalaria pubescens (C.Presl) Cufod.	LC		
Asteraceae	Cynara cardunculus L. subsp. zingaroensis (Raimondo & Domina) Raimondo & Domina	DD		
Boraginaceae	Cynoglossum apenninum L.	LC		1.1; 2.3; 4.1; 7.1
Boraginaceae	Cynoglossum barbaricinum Arrigoni & Selvi	NT		2.3; 7.2
Boraginaceae	Cynoglossum magellense Ten.	LC		2.3; 7.3
Boraginaceae	Cynoglossum nebrodense Guss. subsp. lucanum Selvi & Sutorý	NT		7.3
Fabaceae	Cytisus aeolicus Guss.	EN	B2ab(ii,iv)	6; 10.1
Fabaceae	Cytisus proteus Zumagl.	LC		5.3
Thymelaeaceae	Daphne petraea Leyb.	LC		
Thymelaeaceae	Daphne reichsteinii Landolt & E.J.P.Hauser	VU	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	4.1
Apiaceae	Daucus broteroi Ten.	LC		

Apiaceae	Daucus carota L. subsp. rupestris (Guss.) Heywood	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	7.3; 8.2
Apiaceae	Daucus nebrodensis Strobl	LC		
Ranunculaceae	Delphinium longipes Moris	VU	B1ab(iii,iv)+2ab(iii,iv)	1.3; 2.2; 4.1; 7.2; 8.2; 9.1
Caryophyllaceae	Dianthus borbonicus Brullo, C.Brullo, Colombo, Giusso, Ilardi & R.Perrone	VU	D2	2.3; 7.1
Caryophyllaceae	Dianthus brachycalyx Huet ex Bacch., Brullo, Casti & Giusso	LC		2.3
Caryophyllaceae	Dianthus brutius Brullo, Scelsi & Spamp. subsp. brutius	LC		4.1; 10.3
Caryophyllaceae	Dianthus brutius Brullo, Scelsi & Spamp. subsp. pentadactyli Brullo, Scelsi & Spamp.	NT		4.1
Caryophyllaceae	Dianthus busambrae Soldano & F.Conti	VU	D2	10.3
Caryophyllaceae	Dianthus carthusianorum L. subsp. tenorei (Lacaita) Pignatti	LC		5.2
Caryophyllaceae	Dianthus cyatophorus Moris subsp. cyatophorus	EN	B1ab(iii,iv)+2ab(iii,iv)	2.3; 6.1; 10.3; 11.4
Caryophyllaceae	Dianthus cyatophorus Moris subsp. minae (Mazzola, Raimondo & Ilardi) Raimondo	LC		
Caryophyllaceae	Dianthus furcatus Balb. subsp. dissimilis (Burnat) Pignatti	DD		
Caryophyllaceae	Dianthus furcatus Balb. subsp. lereschii (Burnat) Pignatti	LC		
Caryophyllaceae	Dianthus gasparrinii Guss.	EN	B1ab(iii)+2ab(iii)	4.1; 5.2; 7.1
Caryophyllaceae	Dianthus genargenteus Bacch., Brullo, Casti & Giusso	NT		2.3; 5.2; 6.1
Caryophyllaceae	Dianthus graminifolius C.Presl	LC		2.3; 7.1; 10.3
Caryophyllaceae	Dianthus guliae Janka	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	2.1; 2.2; 2.3; 4.1; 7.1; 7.3; 9.3
Caryophyllaceae	Dianthus ichnusae Bacch., Brullo, Casti & Giusso subsp. ichnusae	NT		2.2; 2.3
Caryophyllaceae	Dianthus ichnusae Bacch., Brullo, Casti & Giusso subsp. toddei Bacch., Brullo, Casti & Giusso	VU	D2	2.2; 2.3
Caryophyllaceae	Dianthus insularis Bacch., Brullo, Casti & Giusso	EN	B2ab(iii,v)	6.1
Caryophyllaceae	Dianthus japigicus Bianco & Brullo	EN	B2ab(ii,iii)	1.3; 4.1
Caryophyllaceae	Dianthus morisianus Vals.	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	1.3; 2.2; 2.3; 6.1; 7.3
Caryophyllaceae	Dianthus mossanus Bacch. & Brullo	NT		5.2; 7.2; 10.3
Caryophyllaceae	Dianthus oliastrae Bacch., Brullo, Casti & Giusso	LC		2.3; 7.1
Caryophyllaceae	Dianthus rupicola Biv. subsp. aeolicus (Lojac.) Brullo & Minissale	LC		
Caryophyllaceae	Dianthus rupicola Biv. subsp. lopadusanus Brullo & Minissale	LC		
Caryophyllaceae	Dianthus sardous Bacch., Brullo, Casti & Giusso	LC		
Caryophyllaceae	Dianthus tarentinus Lacaita	LC		2.3; 6.2; 7.1
Caryophyllaceae	Dianthus virgatus Pasq.	LC		
Caryophyllaceae	Dianthus vulturius Guss. & Ten. subsp. aspromontanus Brullo, Scelsi & Spamp.	VU	D2	4.1
Caryophyllaceae	Dianthus vulturius Guss. & Ten. subsp. vulturius	LC		
Brassicaceae	Diplotaxis scaposa DC.	NT		1.3
Dipsacaceae	Dipsacus valsecchii Camarda	LC		2.3; 4.1
Brassicaceae	Draba turgida É.Huet & A.Huet ex Ces., Pass. & Gibelli	NT		
Poaceae	Drymochloa drymeja (Mert. & W.D.J.Koch) Holub subsp. exaltata (C.Presl) Foggi & Signorini	LC		1.1; 7.1; 10.1
Asteraceae	Echinops siculus Strobl	LC		3.3; 7.1; 7.3
Boraginaceae	Echium anchusoides Bacch., Brullo & Selvi	LC		2.3
Boraginaceae	Echium italicum L. subsp. siculum (Lacaita) Greuter & Burdet	LC		
Campanulaceae	Edraianthus graminifolius (L.) A.DC. subsp. siculus (Strobl) Greuter & Burdet	LC		11
Amaranthaceae	Eokochia saxicola (Guss.) Freitag & G.Kadereit	EN	B2ab(i,ii,iv)	6.1; 10.3
Orchidaceae	Epipactis aspromontana Bartolo, Pulv. & Robatsch	DD		5.2
Orchidaceae	Epipactis autumnalis Doro	LC		
Orchidaceae	Epipactis calabrica U.Grabner, S.Hertel & Presser	DD		
Orchidaceae	Epipactis collaris S.Hertel	DD		
Orchidaceae	Epipactis cupaniana C.Brullo, D'Emerico & Pulv.	EN	D	1.3; 2.3; 4.1
Orchidaceae	Epipactis etrusca Presser & S.Hertel	LC		5.3
Orchidaceae	Epipactis hyblaea Brullo & Zimmitti	VU	D2	2.3; 7.1
Orchidaceae	Epipactis ioessa Bongiorni, De Vivo, Fori & Romolini	EN	B1ac(iv)+2ac(iv)	5.3; 11.2
Orchidaceae	Epipactis lucana Presser, S.Hertel & V.A.Romano	DD		

Orchidaceae	Epipactis maricae (Croce, Bongiorni, De Vivo & Fori) Presser & S.Hertel	CR	B1ab(v)+2ab(v)+D	6.1; 7.2
Orchidaceae	Epipactis meridionalis H.Baumann & R.Lorenz	VU	B2ab(i,ii,iii,iv,v)	7.3
Orchidaceae	Epipactis sanguinea S.Hertel & Presser	LC		
Orchidaceae	Epipactis schubertiorum Bartolo, Pulv. & Robatsch	LC		5.2
Orchidaceae	Epipactis thesaurensis Agrezzi, Ovatoli & Bongiorni	NT		2.3; 5.3
Orchidaceae	Epipactis zaupolensis (Barbaro & Kreutz) Bongiorni, De Vivo & Fori	CR	B1ab(iii,v)+2ab(iii,v)	1.1; 2.1; 2.2; 7.2; 9.3; 11.1
Ericaceae	Erica multiflora L. subsp. hyblaea Domina & Raimondo	NT		7.1
Ericaceae	Erica sicula Guss. subsp. sicula	CR	B1ab(ii)	7.1
Geraniaceae	Erodium alpinum (Burm.f.) L'Hér.	LC		2.3
Geraniaceae	Erodium nervulosum L'Hér.	NT		1.3; 4.1; 6.1
Brassicaceae	Erucastrum nasturtiifolium (Poir.) O.E.Schulz subsp. benacense F.Martini & F.Fen.	LC		4.1; 6.1; 11.1
Brassicaceae	Erucastrum palustre (Pirona) Vis.	EN	B2ab(iii)c(iv)	7.3; 9.3
Brassicaceae	Erucastrum virgatum C.Presl subsp. virgatum	LC		1.3; 2.3; 4.1; 7.1; 7.3
Apiaceae	Eryngium crinitum C.Presl	LC		7.1
Apiaceae	Eryngium siculum Lojac.	LC		7.1
Apiaceae	Eryngium tricuspidatum L. subsp. bocconei (Lam.) Wörz	LC		1.1; 1.3; 7.1
Brassicaceae	Erysimum apenninum Peccenini & Polatschek	LC		
Brassicaceae	Erysimum aurantiacum (Leyb.) Leyb.	CR	B1ab(iii)	7.3
Brassicaceae	Erysimum bonannianum C.Presl	LC		
Brassicaceae	Erysimum brulloi G.Ferro	NT		
Brassicaceae	Erysimum crassistylum C.Presl subsp. garganicum Peccenini & Polatschek	LC		
Brassicaceae	Erysimum crassistylum C.Presl subsp. verresianum Peccenini & Polatschek	VU	B1ab(iii,v)+2ab(iii,v)	2.1
Brassicaceae	Erysimum etnense Jord.	LC		1.3; 4.1; 10.1
Brassicaceae	Erysimum etruscum Peccenini & Polatschek	LC		
Brassicaceae	Erysimum insubricum Peccenini & Polatschek	NT		3.2; 4.1; 6.1; 7.3
Brassicaceae	Erysimum ligusticum Peccenini & Polatschek	VU	B1ab(iii)+2ab(iii)	4.1; 7.3
Brassicaceae	Erysimum majellense Polatschek	LC		
Brassicaceae	Erysimum maremmanum Peccenini & Polatschek	LC		7.3
Brassicaceae	Erysimum metlesicsii Polatschek	LC		7.1
Brassicaceae	Erysimum montis-argentarii Peccenini & Polatschek	CR	D	4.2; 7.3
Brassicaceae	Erysimum pignattii Peccenini & Polatschek	LC		
Brassicaceae	Erysimum pseudorhaeticum Polatschek	LC		
Euphorbiaceae	Euphorbia ceratocarpa Ten.	NT		1.1; 1.3; 6.1; 7.1
Euphorbiaceae	Euphorbia corallioides L.	LC		7.3
Euphorbiaceae	Euphorbia gasparrinii Boiss. subsp. gasparrinii	CR	A2acd+B2ab(i,ii,iii,iv,v)	7.2
Euphorbiaceae	Euphorbia gasparrinii Boiss. subsp. samnitica (Fiori) Pignatti	LC		
Euphorbiaceae	Euphorbia hyberna L. subsp. gibelliana (Peola) Raffaelli	LC		5.3; 8.2
Euphorbiaceae	Euphorbia meuseli Geltman	DD		
Euphorbiaceae	Euphorbia nicaeensis All. subsp. japygica (Ten.) Arcang.	LC		7.1; 7.3
Euphorbiaceae	Euphorbia papillaris (Boiss.) Raffaelli & Ricci	VU	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	7.1
Euphorbiaceae	Euphorbia variabilis Ces.	LC		
Orobanchaceae	Euphrasia tricuspidata L. subsp. tricuspidata	LC		7.3; 11.1
Caryophyllaceae	Facchinia grignensis (Rchb.) Dillenb. & Kadereit	LC		11.1
Apiaceae	Ferulago nodosa (L.) Boiss. subsp. geniculata (Guss.) Troìa & Raimondo	LC		1.3; 7.1
Poaceae	Festuca alfrediana Foggi & Signorini subsp. ferrariniana Foggi, Parolo & Gr.Rossi	LC		3.2
Poaceae	Festuca apuanica Markgr.-Dann.	LC		
Poaceae	Festuca austrodolomitica Pils & Prosser	LC		
Poaceae	Festuca centroapenninica (Markgr.-Dann.) Foggi, F.Conti & Pignatti	LC		
Poaceae	Festuca gamisansii Kerguélen subsp. aethaliae Signorini & Foggi	VU	B1ab(iii)+2ab(iii)	2.3; 7.3; 8.2

Poaceae	Festuca humifusa Brullo & Guarino	NT		
Poaceae	Festuca imperatrix Catonica	LC		
Poaceae	Festuca morisiana Parl. subsp. morisiana	VU	B1ab(iii,iv)+2ab(iii,iv)	1.2; 1.3; 2.3; 6.1; 7.1
Poaceae	Festuca morisiana Parl. subsp. sicula Cristaudo, Foggi, Galesi & Maugeri	LC		
Poaceae	Festuca pignattiorum Markgr.-Dann.	DD		
Poaceae	Festuca riccerii Foggi & Gr.Rossi	LC		1.3
Poaceae	Festuca robustifolia Markgr.-Dann.	LC		2.2.1; 3.2; 7.3
Poaceae	Festuca veneris Gr.Rossi, Foggi & Signorini	LC		
Poaceae	Festuca violacea Ser. ex Gaudin subsp. italica Foggi, Gr.Rossi & Signorini	LC		
Poaceae	Festuca violacea Ser. ex Gaudin subsp. puccinellii (Parl.) Foggi, Gr.Rossi & Signorini	LC		
Oleaceae	Fraxinus excelsior L. subsp. siciliensis Ilardi & Raimondo	VU	D1	
Liliaceae	Gagea chrysantha Schult. & Schult.f.	VU	D2	2.3; 7.3; 9.3
Liliaceae	Gagea peruzzii J.-M.Tison	LC		
Liliaceae	Gagea sicula Lojac.	DD		
Liliaceae	Gagea tisoniana Peruzzi, Bartolucci, Frignani & Minut.	NT		2.3; 7
Rubiaceae	Galium aetnicum Biv.	LC		10.1
Rubiaceae	Galium baldense Spreng.	LC		11.1
Rubiaceae	Galium glaucophyllum Em.Schmid	LC		
Rubiaceae	Galium litorale Guss.	NT		7
Rubiaceae	Galium magellense Ten.	LC		11
Rubiaceae	Galium margaritaceum A.Kern.	LC		6.1
Rubiaceae	Galium montis-arerae Merxm. & Ehrend.	NT		1.3; 6.1; 10.3
Rubiaceae	Galium palaeoitalicum Ehrend.	LC		
Rubiaceae	Galium pallidum C.Presl	LC		2.3; 7.1
Rubiaceae	Galium schmidii Arrigoni	LC		6.1
Fabaceae	Genista arbusensis Vals.	LC		1.1; 1.3; 2.3; 3.2; 7.1
Fabaceae	Genista aristata C.Presl	LC		2.3; 7.1
Fabaceae	Genista bocchierii Bacch., Brullo & Feoli Chiapella	CR	B2ab(iii,iv,v)	1.3; 6.1; 8.2
Fabaceae	Genista cadasonensis Vals.	NT		2.3; 7.1
Fabaceae	Genista cilentina Vals.	EN	B2ab(i,ii,iii)	1; 8; 10
Fabaceae	Genista cupanii Guss.	LC		7.3
Fabaceae	Genista demarcoi Brullo, Scelsi & Siracusa	CR	B2ab(iii,v)	6.1; 7.3
Fabaceae	Genista ephedroides DC.	LC		7.1
Fabaceae	Genista etnensis (Biv.) DC.	LC		1.1; 1.3; 2.1; 2.2; 4.1; 7.1
Fabaceae	Genista gasparrinii (Guss.) C.Presl	NT		2.3; 7.1
Fabaceae	Genista insularis Bacch., Brullo & Feoli Chiapella subsp. fodinae Bacch., Brullo & Feoli Chiapella	LC		
Fabaceae	Genista insularis Bacch., Brullo & Feoli Chiapella subsp. insularis	NT		6.1; 7.1
Fabaceae	Genista madoniensis Raimondo	LC		6; 7
Fabaceae	Genista michelii Spach	LC		
Fabaceae	Genista morisii Colla	NT		7.1; 7.3
Fabaceae	Genista ovina Bacch., Brullo & Feoli Chiapella	NT		2.2; 7.3
Fabaceae	Genista pichisermolliana Vals.	LC		
Fabaceae	Genista pulchella Vis. subsp. aquilana F.Conti & Manzi	CR	B1ab(iii,v)+2ab(iii,v)	7.3
Fabaceae	Genista sardoa Vals.	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 2.3; 6.1; 7.1
Fabaceae	Genista sericea Wulfen subsp. pollinensis F.Conti, Feoli Chiapella & Bernardo	VU	B1ab(iii)+2ab(iii)	7.1; 7.3
Fabaceae	Genista sulcitana Vals.	LC		2.3; 7.1
Fabaceae	Genista tenorei G.Don	LC		
Fabaceae	Genista toluensis Vals.	CR	A2c	1.1; 1.2; 2.3; 4.1; 7.1
Fabaceae	Genista tyrrhena Vals. subsp. pontiana Brullo & De Marco	LC		

Fabaceae	Genista tyrrhena Vals. subsp. tyrrhena	LC		
Fabaceae	Genista valsecchiae Brullo & De Marco	LC		1.3; 6.1; 7.1; 7.3
Gentianaceae	Gentiana brentae Prosser & Bertolli	NT		5.2; 6.1
Gentianaceae	Gentiana froelichii Jan subsp. zenariae F.Martini & Poldini	NT		1.3; 6.1
Gentianaceae	Gentianella columnae (Ten.) Holub	LC		7.3
Geraniaceae	Geranium austroapenninum Aedo	LC		5.2; 6.1
Lamiaceae	Glechoma sardoa (Bég.) Bég.	LC		
Plantaginaceae	Globularia incanescens Viv.	LC		2.3; 3.2; 4.1; 7.1
Plantaginaceae	Globularia neapolitana O.Schwarz	DD		
Plumbaginaceae	Goniolimon italicum Tammaro, Pignatti & Frizzi	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)+C2a(i)	1.1; 2.2; 3.2; 6.1; 7.1; 8.1
Caryophyllaceae	Gypsophila arrostii Guss. subsp. arrostii	DD		
Caryophyllaceae	Gypsophila papillosa Porta	DD		
Cistaceae	Helianthemum farinulentum Lacaita	DD		
Cistaceae	Helianthemum morisianum Bertol.	EN	B1ab(iii,iv,v)+2ab(iii,iv,v)	1.3; 2.2; 4.1; 8.2
Cistaceae	Helianthemum oelandicum (L.) Dum.Cours. subsp. allionii (Tineo) Greuter & Burdet	NT		2.3; 6.1
Cistaceae	Helianthemum oelandicum (L.) Dum.Cours. subsp. nebrodense (Heldr. ex Guss.) Greuter & Burdet	VU	D2	1.3; 2.3; 9.3
Cistaceae	Helianthemum sicanorum Brullo, Giusso & Sciandr.	CR	B2ab(iii,v)	6; 7
Asteraceae	Helichrysum errerae Tineo	LC		7
Asteraceae	Helichrysum italicum (Roth) G.Don subsp. pseudolitoreum (Fiori) Bacch., Brullo & Mossa	NT		1.1; 1.3; 6.1; 8.1; 10.3
Asteraceae	Helichrysum litoreum Guss.	LC		
Asteraceae	Helichrysum saxatile Moris subsp. morisianum Bacch., Brullo & Mossa	LC		
Asteraceae	Helichrysum saxatile Moris subsp. saxatile	LC		6.1
Poaceae	Helictochloa praetutiana (Parl. ex Arcang.) Bartolucci, F.Conti, Peruzzi & Banfi subsp. praetutiana	LC		
Poaceae	Helictochloa praetutiana (Parl. ex Arcang.) Bartolucci, F.Conti, Peruzzi & Banfi subsp. rigida (Sarfatti) Bartolucci, F.Conti, Peruzzi & Banfi	LC		
Boraginaceae	Heliotropium suaveolens M.Bieb. subsp. bocconei (Guss.) Brummitt	LC		1.1; 1.3
Ranunculaceae	Helleborus viridis L. subsp. abruzzicus (M.Thomsen, McLewin & B.Mathew) Bartolucci, F.Conti & Peruzzi	LC		
Ranunculaceae	Helleborus viridis L. subsp. bocconei (Ten.) Peruzzi	LC		7.1
Ranunculaceae	Helleborus viridis L. subsp. liguricus (M.Thomsen, McLewin & B.Mathew) Bartolucci, F.Conti & Peruzzi	DD		
Apiaceae	Heptaptera angustifolia (Bertol.) Tutin	EN	A2c+B1ab(i,ii,iv,v)+2ab(i,ii,iv,v)	1.1; 2.1; 2.3; 7.3
Caryophyllaceae	Herniaria bornmuelleri Chaudhri	LC		
Caryophyllaceae	Herniaria fontanesii Gay subsp. empedocleana (Lojac.) Brullo	EX		
Caryophyllaceae	Herniaria hirsuta L. subsp. aprutia Chaudhri	LC		
Brassicaceae	Hesperis laciniata All. subsp. cupaniana (Guss.) Giardina & Raimondo	VU	D2	7.3
Asteraceae	Hieracium acanthodontoides Arv.-Touv. & Belli	DD		
Asteraceae	Hieracium amphisericophorum Zahn	DD		
Asteraceae	Hieracium antholzense Zahn	DD		
Asteraceae	Hieracium aspromontanum Brullo, Scelsi & Spamp.	DD		
Asteraceae	Hieracium atrocalyx Gottschl.	DD		
Asteraceae	Hieracium barrelieri Gottschl., Raimondo, Greuter & Di Grist.	DD		
Asteraceae	Hieracium beyeri Zahn	DD		
Asteraceae	Hieracium boreoapenninum Gottschl.	DD		
Asteraceae	Hieracium bornetii Burnat & Gremli	DD		
Asteraceae	Hieracium brillii Gottschl.	DD		
Asteraceae	Hieracium bugellense Gottschl.	DD		
Asteraceae	Hieracium busambarense Caldarella, Gianguzzi & Gottschl.	DD		
Asteraceae	Hieracium calothyrsum Zahn ex Murr	DD		
Asteraceae	Hieracium carpegnae Gottschl.	DD		
Asteraceae	Hieracium cavallense Gottschl.	DD		
Asteraceae	Hieracium chiariglionei Gottschl.	DD		

Asteraceae	Hieracium cirritogenes Zahn	DD		
Asteraceae	Hieracium cirsiopsis Gottschl. & Dunkel	DD		
Asteraceae	Hieracium contii Gottschl.	DD		
Asteraceae	Hieracium cophanense Lojac.	DD		
Asteraceae	Hieracium cornuscalae Gottschl.	DD		
Asteraceae	Hieracium dunkelii Gottschl.	DD		
Asteraceae	Hieracium duronense Gottschl.	DD		
Asteraceae	Hieracium erucopsis Gottschl.	DD		
Asteraceae	Hieracium exilicaule Gottschl.	DD		
Asteraceae	Hieracium fastuosum Zahn	DD		
Asteraceae	Hieracium faucis-jovis Gottschl.	DD		
Asteraceae	Hieracium galeroides Gottschl.	DD		
Asteraceae	Hieracium geilingeri Zahn	DD		
Asteraceae	Hieracium grovesianum Arv.-Touv. ex Belli	DD		
Asteraceae	Hieracium illyricopsis Gottschl.	DD		
Asteraceae	Hieracium insubricum Gottschl.	DD		
Asteraceae	Hieracium juengeri Gottschl.	DD		
Asteraceae	Hieracium kofelicum Gottschl.	DD		
Asteraceae	Hieracium latilepidotum Gottschl.	DD		
Asteraceae	Hieracium lucidum Guss.	CR	D	6.1
Asteraceae	Hieracium macrogrovesianum Gottschl.	DD		
Asteraceae	Hieracium marchesonii Gottschl.	DD		
Asteraceae	Hieracium marsorum Gottschl.	DD		
Asteraceae	Hieracium medense Gottschl.	DD		
Asteraceae	Hieracium montis-florum Gottschl.	DD		
Asteraceae	Hieracium montis-porrarae Gottschl.	DD		
Asteraceae	Hieracium nematopodum (Zahn) P.D.Sell & C.West	DD		
Asteraceae	Hieracium neronense Gottschl.	DD		
Asteraceae	Hieracium niveobarbatum Arv.-Touv. ex Gottschl.	DD		
Asteraceae	Hieracium nubitangens Gottschl.	DD		
Asteraceae	Hieracium orodoxum Gottschl.	DD		
Asteraceae	Hieracium orsierae Gottschl.	DD		
Asteraceae	Hieracium pallidum Biv.	DD		
Asteraceae	Hieracium permaculatum Gottschl.	DD		
Asteraceae	Hieracium picenorum Gottschl.	DD		
Asteraceae	Hieracium pietrae Zahn	DD		
Asteraceae	Hieracium pioracense Gottschl.	DD		
Asteraceae	Hieracium pizense Zahn	DD		
Asteraceae	Hieracium pollinense Zahn	DD		
Asteraceae	Hieracium pontiarnense Gottschl.	DD		
Asteraceae	Hieracium portanum Belli	DD		
Asteraceae	Hieracium pratorum-tivi Gottschl.	DD		
Asteraceae	Hieracium profetanum Belli	DD		
Asteraceae	Hieracium pseudaustrale Gottschl.	DD		
Asteraceae	Hieracium pseudogrovesianum Gottschl.	DD		
Asteraceae	Hieracium pseudopallidum Gottschl.	DD		
Asteraceae	Hieracium pujattii Gottschl.	DD		
Asteraceae	Hieracium racemosiforme (Zahn) Zahn	DD		
Asteraceae	Hieracium ragognae Gottschl.	DD		

Asteraceae	Hieracium rottii Gottschl.	DD		
Asteraceae	Hieracium segusianum Gottschl.	DD		
Asteraceae	Hieracium semicanescens Gottschl.	DD		
Asteraceae	Hieracium semipallescens Gottschl.	DD		
Asteraceae	Hieracium simbruinicum Gottschl.	DD		
Asteraceae	Hieracium sparsivestitum Gottschl.	DD		
Asteraceae	Hieracium squarrosofalcatum Gottschl.	DD		
Asteraceae	Hieracium staui Belli	DD		
Asteraceae	Hieracium strafforelloanum Zahn	DD		
Asteraceae	Hieracium symphytifolium Froel.	DD		
Asteraceae	Hieracium terraccianoi Di Grist., Gottschl. & Raimondo	DD		
Asteraceae	Hieracium thesauranum Gottschl.	DD		
Asteraceae	Hieracium thesioides Gottschl.	DD		
Asteraceae	Hieracium tolstoii Fen. & Zahn	CR(PE)		
Asteraceae	Hieracium tonalense Gottschl.	DD		
Asteraceae	Hieracium torrigliense Gottschl.	DD		
Asteraceae	Hieracium toscoemilianum Gottschl.	DD		
Asteraceae	Hieracium truttae Gottschl.	DD		
Asteraceae	Hieracium umbrosoides Gottschl.	DD		
Asteraceae	Hieracium venostorum (Zahn) Gottschl.	DD		
Asteraceae	Hieracium venticaesum Gottschl.	DD		
Asteraceae	Hieracium volaiense Gottschl.	DD		
Poaceae	Holcus notarisii Nyman	DD		
Hypericaceae	Hypericum barbatum Jacq. subsp. calabricum (Spreng.) Peruzzi & N.G.Passal.	VU	B1ab(i,ii,iii,iv,v)	2.1; 2.3; 7.3
Hypericaceae	Hypericum scruglii Bacch., Brullo & Salmeri	EN	B1ab(iii,iv)+2ab(iii,iv)	2.2; 2.3; 3.2
Asteraceae	Hypochaeris facchiniana Ambrosi	VU	B1ab(iii,v)+2ab(iii,v)	7.3
Asteraceae	Hypochaeris sardoa Bacch., Brullo & Terrasi	DD		
Brassicaceae	Iberis integerrima Moris	NT		3.2
Iridaceae	Iris bicapitata Colas.	LC		2.3; 4.1; 6.2; 7.1
Iridaceae	Iris calabra (N.Terracc.) Peruzzi	NT		7.1; 7.3
Iridaceae	Iris cengialti Ambrosi ex A.Kern. subsp. cengialti	LC		
Iridaceae	Iris cengialti Ambrosi ex A.Kern. subsp. veneta (Pamp.) Trinajstić	DD		
Iridaceae	Iris marsica I.Ricci & Colas.	NT		1; 2; 7.3
Iridaceae	Iris relicta Colas.	LC		2.3
Iridaceae	Iris revoluta Colas.	CR	B2ab(iii,v)	6
Iridaceae	Iris sabina N.Terracc.	LC		
Iridaceae	Iris setina Colas.	LC		
Brassicaceae	Isatis raimondoi Di Grist., Scafidi & Domina	DD		
Isoëtaceae	Isoëtes malinverniana Ces. & De Not.	CR	A2c	4.1; 7.2; 8.1; 9.3
Isoëtaceae	Isoëtes sabatina Troia & Azzella	CR	B1ab(iii)+2ab(iii)	6.1; 7.2.1; 9.1; 9.3
Isoëtaceae	Isoëtes todaroana Troia & Raimondo	EN	B2ab(iii,v)	1.3; 7.2; 7.3; 11.2
Asteraceae	Jacobaea alpina (L.) Moench subsp. samnitum (Nyman) Peruzzi	LC		2.3
Asteraceae	Jacobaea ambigua (Biv.) Pelser & Veldkamp subsp. ambigua	NT		1.1; 1.3; 4.1; 10.1
Asteraceae	Jacobaea ambigua (Biv.) Pelser & Veldkamp subsp. nebrodensis (Guss.) Peruzzi & N.G.Passal. & C.E.Jarvis	LC		
Asteraceae	Jacobaea lycopifolia (Desf. ex Poir.) Greuter & B.Nord.	LC		4.1; 7.1
Asteraceae	Jacobaea maritima (L.) Pelser & Meijden subsp. bicolor (Willd.) B.Nord. & Greuter	NT		1.1; 1.3; 4.1; 6.1; 7.3
Asteraceae	Jacobaea maritima (L.) Pelser & Meijden subsp. gibbosa (Guss.) Peruzzi, N.G.Passal. & C.E.Jarvis	EN	B1ab(ii,iii,iv)+2ab(ii,iii,iv)	1.1; 1.3; 4.1; 6.1; 7.3; 8.1
Campanulaceae	Jasione sphaerocephala Brullo, Marcenò & Pavone	NT		7.1
Crassulaceae	Jovibarba globifera (L.) J.Parn. subsp. lagariniana L.Gallo	NT		3.2

Asteraceae	Jurinea bocconei (Guss.) Guss.	NT		2.3
Asteraceae	Klasea flavescens (L.) Holub subsp. cichoracea (L.) Greuter & Wagenitz	LC		1.1; 2.1; 2.3; 4.1; 7.1
Caprifoliaceae	Knautia baldensis A.Kern. ex Borbás	LC		2.3; 3.2; 4.1; 6.1; 11.1
Caprifoliaceae	Knautia calycina (C.Presl) Guss.	LC		5.3; 6.1; 7.3
Caprifoliaceae	Knautia dinarica (Murb.) Borbás subsp. silana (Grande) Ehrend.	VU	B1ab(iii,v)+2ab(iii,v)	2.2; 2.3; 4.2
Caprifoliaceae	Knautia gussonei Szabó	LC		
Caprifoliaceae	Knautia lucana (Lacaita) Szabó	DD		
Caprifoliaceae	Knautia persicina A.Kern.	LC		11.1
Poaceae	Koeleria lucana Brullo, Giusso & Miniss.	DD		
Poaceae	Koeleria splendens C.Presl	LC		
Asteraceae	Lactuca longidentata DC.	EN	B1ab(iii,iv)+2ab(iii,iv)	2.3; 3.2; 6.1
Asteraceae	Lamyropsis microcephala (Moris) Dittrich & Greuter	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	1.3; 2.3
Apiaceae	Laserpitium nitidum Zanted.	LC		5.2; 6.1; 7.3
Fabaceae	Lathyrus apenninus F.Conti	NT		2.2; 7.2
Fabaceae	Lathyrus jordanii (Ten.) Ces., Pass. & Gibelli	LC		5.3; 7.3
Fabaceae	Lathyrus odoratus L.	LC		1.1; 1.3; 2.1; 2.3; 7.1
Lamiaceae	Lavandula austroapennina N.G.Passal., Tundis & Upson	LC		
Asteraceae	Leontodon anomalus Ball	LC		3.2
Asteraceae	Leontodon apulus (Fiori) Brullo	LC		
Asteraceae	Leontodon intermedius (Fiori) Huter, Porta & Rigo ex Huter	LC		7.1
Asteraceae	Leontodon siculus (Guss.) Nyman	NT		2.3; 7.3
Asteraceae	Leucanthemum coronopifolium Vill. subsp. tenuifolium (Guss.) Vogt & Greuter	LC		
Asteraceae	Leucanthemum laciniatum Huter, Porta & Rigo	LC		2.3; 7.3
Asteraceae	Leucanthemum ligusticum Marchetti, R.Bernardello, Melai & Peruzzi	LC		
Asteraceae	Leucanthemum tridactylites (A.Kern. & Huter ex Porta & Rigo) Huter, Porta & Rigo	LC		
Poaceae	Leucopoa calabrica (Huter, Porta & Rigo) H.Scholz & Foggi	LC		
Orchidaceae	Limodorum brulloi Bartolo & Pulv.	DD		
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. acutifolium	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. bosanum (Arrigoni & Diana) Arrigoni	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. cornusianum (Arrigoni & Diana) Arrigoni	LC		1.3; 6.1
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. nymphaeum (Erben) Arrigoni	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. tenuifolium (Bertol. ex Moris) Arrigoni	LC		
Plumbaginaceae	Limonium acutifolium (Rchb.) Salmon subsp. tharrosianum (Arrigoni & Diana) Arrigoni	VU	D2	3.2; 6.1
Plumbaginaceae	Limonium aegusae Brullo	VU	D2	1.3
Plumbaginaceae	Limonium albidum (Guss.) Pignatti	CR	B1ab(v)+2ab(v)	5.2; 8.2
Plumbaginaceae	Limonium algusae (Brullo) Greuter	CR	B1ab(v)+2ab(v)	1.1; 1.3; 6.1; 7.3
Plumbaginaceae	Limonium ampuriense Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium amynclaeum Pignatti	NT		6.1; 7.3; 9.4
Plumbaginaceae	Limonium apulum Brullo	NT		1.3; 6.1
Plumbaginaceae	Limonium bocconei (Lojac.) Litard.	NT		1.1; 1.3; 6.1
Plumbaginaceae	Limonium brutium Brullo	CR	B2ab(iii)	1.3; 6.1; 9.4
Plumbaginaceae	Limonium calabrum Brullo	CR	B1ab(iii)	1.3; 6.1
Plumbaginaceae	Limonium calcarae (Tod. ex Janka) Pignatti	CR	B2ab(iii,v)	6.1
Plumbaginaceae	Limonium capitis-eliae Erben	CR	B1ab(iii,iv)+2ab(iii,iv)	1.3; 6.1; 8.1
Plumbaginaceae	Limonium capitis-marci Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium caprariae Rizzotto	NT		6.1; 8.1; 8.2
Plumbaginaceae	Limonium carisae Erben	VU	D2	1.2; 1.3; 2.4; 8.1
Plumbaginaceae	Limonium catanense (Tineo ex Lojac.) Brullo	EX		
Plumbaginaceae	Limonium catanzaroi Brullo	CR	B1ab(iii,v)+2ab(iii,v)	6.1; 7.3

Plumbaginaceae	Limonium circaei Pignatti	NT		6.1
Plumbaginaceae	Limonium cophanense C.Brullo, Brullo, Cambria, Giusso & Ilardi	VU	D2	1.3
Plumbaginaceae	Limonium coralliforme Alf.Mayer	LC		1.3; 6.1
Plumbaginaceae	Limonium cosyrense (Guss.) Kuntze	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium cumanum (Ten.) Kuntze	VU	B1ab(i,ii,iii,iv)	1.3; 6.1; 7.3; 8.1; 10.3
Plumbaginaceae	Limonium cunicularium Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium diomedeum Brullo	NT		1.3; 6.1
Plumbaginaceae	Limonium dolcheri Pignatti	LC		1.3; 6.1
Plumbaginaceae	Limonium doriae (Sommier) Pignatti	CR	B2ab(iii,v)	8.2
Plumbaginaceae	Limonium etruscum Arrigoni & Rizzotto	CR	B1ab(i,ii,iii,iv)+2ab(i,ii,iii,iv)	6.1; 7.2; 7.3; 11.4
Plumbaginaceae	Limonium flagellare (Lojac.) Brullo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium furnarii Brullo	NT		1.1; 1.3; 6.1
Plumbaginaceae	Limonium gallurense Arrigoni & Diana	LC		
Plumbaginaceae	Limonium gorgonae Pignatti	EN	B2ab(iii,v)	8.1
Plumbaginaceae	Limonium hermaeum (Pignatti) Pignatti	LC		1.3; 6.1
Plumbaginaceae	Limonium hyblaeum Brullo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium ilvae Pignatti	NT		1.1; 1.3; 2.3; 6.1; 8.1; 8.2
Plumbaginaceae	Limonium inarimense (Guss.) Pignatti	VU	D2	1.3; 6.1; 7.3; 8.1
Plumbaginaceae	Limonium insulare (Bég. & Landi) Arrigoni & Diana	EN	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)	4.3; 6.1; 7.3
Plumbaginaceae	Limonium intermedium (Guss.) Brullo	EW		
Plumbaginaceae	Limonium ionicum Brullo	VU	D2	6.1; 10.3
Plumbaginaceae	Limonium jankae (Lojac.) Giardina & Raimondo	DD		
Plumbaginaceae	Limonium japygicum (E.Groves) Pignatti ex Pignatti, Galasso & Nicolella	LC		1.3
Plumbaginaceae	Limonium lacinium Arrigoni	CR	B1ab(iii,iv)	1.3: 6.1; 9.4
Plumbaginaceae	Limonium laetum (Nyman) Pignatti	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium lausianum Pignatti	EN	B2ab(iii,v)	2.3; 6.1; 7.3
Plumbaginaceae	Limonium lilybaeum Brullo	NT		3.2
Plumbaginaceae	Limonium lojaconoi Brullo	LC		1.1; 1.3; 6.1; 9.4
Plumbaginaceae	Limonium lopadusanum Brullo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium malfatanicum Erben	NT		1.3; 4.1; 6.1; 8.1
Plumbaginaceae	Limonium mazarae Pignatti	NT		6.1
Plumbaginaceae	Limonium melancholicum Brullo, Marcenò & S.Romano	NT		6.1
Plumbaginaceae	Limonium merxmuelleri Erben subsp. merxmuelleri	LC		3.2
Plumbaginaceae	Limonium merxmuelleri Erben subsp. oristanum (Alf.Mayer) Arrigoni	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium merxmuelleri Erben subsp. sulcitanum (Arrigoni) Arrigoni	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium merxmuelleri Erben subsp. tigulianum (Arrigoni & Diana) Arrigoni	LC		1.3; 6.1; 6.2
Plumbaginaceae	Limonium minutiflorum (Guss.) Kuntze	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium morisianum Arrigoni	VU	B1ab(iii,v)+2ab(iii,v)	1.3; 2.3; 6.1; 10.3
Plumbaginaceae	Limonium multiforme Pignatti	VU	B1ab(iii)+2ab(iii)	1.1; 6.1; 8.1; 8.2
Plumbaginaceae	Limonium multifurcatum Erben	LC		
Plumbaginaceae	Limonium optimae Raimondo	NT		6.1; 7.2; 10.3
Plumbaginaceae	Limonium opulentum (Lojac.) Brullo	CR	B1ab(v)+2ab(v)	10.3
Plumbaginaceae	Limonium pachynense Brullo	CR	B2ab(iii,v)	6.1; 7.3
Plumbaginaceae	Limonium pandatariae Pignatti	VU	B1ab(iii,v)+2ab(iii,v)	6.1
Plumbaginaceae	Limonium panormitanum (Tod.) Pignatti	CR	B1ab(iii,v)+2ab(iii,v)	6.1
Plumbaginaceae	Limonium parvifolium (Tineo) Pignatti	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium pavonianum Brullo	NT		1.1; 1.3; 6.1
Plumbaginaceae	Limonium peucetium Pignatti	CR(PE)		
Plumbaginaceae	Limonium planesiae Pignatti	EN	B2ab(iii)	1.1; 8.1; 8.2

Plumbaginaceae	Limonium poimenum Ilardi, Brullo, D.Cusimano & Giusso	NT		10.3
Plumbaginaceae	Limonium pontium Pignatti	VU	D2	6.1
Plumbaginaceae	Limonium ponzoi (Fiori) Brullo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium protohermaeum Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium pseudolaetum Arrigoni & Diana	VU	A2ac	1.3; 6.1; 7.3; 8.2
Plumbaginaceae	Limonium pulviniforme Arrigoni & Diana	DD		
Plumbaginaceae	Limonium racemosum (Lojac.) Diana	LC		1.3; 4.1; 8.1
Plumbaginaceae	Limonium remotispiculum (Lacaita) Pignatti	LC		
Plumbaginaceae	Limonium retirameum Greuter & Burdet subsp. caralitanum Arrigoni	LC		1.3; 6.1
Plumbaginaceae	Limonium retirameum Greuter & Burdet subsp. retirameum	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium secundirameum (Lojac.) Brullo	CR	B1ab(v)+2ab(v)	6.1
Plumbaginaceae	Limonium selinuntinum Brullo	NT		1.1; 1.3; 6.1
Plumbaginaceae	Limonium sibthorpianum (Guss.) Kuntze	CR	B1ab(iii)+2ab(iii)+C2a(i,ii)+D	4.1
Plumbaginaceae	Limonium sommierianum (Fiori) Arrigoni	NT		6.1; 8.1; 8.2
Plumbaginaceae	Limonium syracusanum Brullo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium tauromenitanum Brullo	CR	B2ab(iii,v)	1.3; 6.1; 7.3
Plumbaginaceae	Limonium tenoreanum (Guss.) Pignatti	CR	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	1.3; 5.2; 6.1; 7.3; 8.1
Plumbaginaceae	Limonium tenuiculum (Tineo ex Guss.) Pignatti	LC		1.3; 6.1
Plumbaginaceae	Limonium tibulatium Pignatti	LC		
Plumbaginaceae	Limonium tineoi (Lojac.) Giardina & Raimondo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium todaroanum Raimondo & Pignatti	CR	D	6.1
Plumbaginaceae	Limonium tyrrhenicum Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plumbaginaceae	Limonium ursanum Erben	NT		1.3; 6.1; 8.1
Plumbaginaceae	Limonium usticanum Giardina & Raimondo	LC		1.1; 1.3; 6.1
Plumbaginaceae	Limonium viniolae Arrigoni & Diana	LC		1.3; 6.1; 8.1
Plantaginaceae	Linaria arcusangeli Atzei & Camarda	EN	B1ab(iii,iv)+2ab(iii,iv)	7.2; 10.3
Plantaginaceae	Linaria capraria Moris & De Not.	NT		5.2; 8.1; 10.3
Plantaginaceae	Linaria multicaulis (L.) Mill. subsp. aetnensis Giardina & Zizza	LC		10.1
Plantaginaceae	Linaria multicaulis (L.) Mill. subsp. humilis (Guss.) De Leon., Giardina & Zizza	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 4.1; 7.1
Plantaginaceae	Linaria multicaulis (L.) Mill. subsp. multicaulis	EN	B2(iii,v)	3.2; 4.1; 7.1
Plantaginaceae	Linaria purpurea (L.) Mill.	LC		1.3; 4.1; 7.1
Plantaginaceae	Linaria tonzigii Lona	NT		1.3; 5.2; 6.1; 11.1
Linaceae	Linum katiae Peruzzi	VU	D1+D2	
Linaceae	Linum mulleri Moris	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	6.1; 7.3
Linaceae	Linum punctatum C.Presl subsp. punctatum	VU	B1ab(iii)+2ab(iii)	2.3
Caprifoliaceae	Lomelosia crenata (Cirillo) Greuter & Burdet subsp. pseudisetensis (Lacaita) Greuter & Burdet	LC		
Caprifoliaceae	Lonicera stabiana Guss. & Pasq.	NT		5.3; 7.1
Juncaceae	Luzula calabra Ten.	LC		2.1; 7.2
Juncaceae	Luzula sylvatica (Huds.) Gaudin subsp. sicula (Parl.) K.Richt.	LC		2.3; 4.1; 5.3
Rosaceae	Malus crescimannoi Raimondo	NT		
Malvaceae	Malva agrigentina (Tineo) Soldano, Banfi & Galasso	NT		1.1; 7.1
Malvaceae	Malva lusitanica (L.) Valdés subsp. pallescens (Moris) Valdés	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)+D	1.3; 6.1; 10.3
Malvaceae	Malva stenopetala (Coss. & Durieu ex Batt.) Soldano, Banfi & Galasso subsp. plazzae (Atzei) Iamonico, Bartolucci & Peruzzi	CR	B1ab(iii,v)	4.1; 5.2; 7.3
Brassicaceae	Matthiola incana (L.) R.Br. subsp. pulchella (Conti) Greuter & Burdet	LC		1.3; 7.3
Brassicaceae	Matthiola incana (L.) R.Br. subsp. rupestris (Raf.) Nyman	NT		1.3; 3.2; 4.1; 7.3
Caryophyllaceae	Mcneillia graminifolia (Ard.) Dillenb. & Kadereit subsp. graminifolia	LC		6.1
Caryophyllaceae	Mcneillia graminifolia (Ard.) Dillenb. & Kadereit subsp. rosanoi (Ten.) F.Conti, Bartolucci, Iamonico & Del Guacchio	LC		
Caryophyllaceae	Mcneillia moraldoi (F.Conti) Dillenb. & Kadereit	CR	B1ab(iii)+2ab(iii)	6.1; 10.3
Poaceae	Megathyrsus bivonanus (Brullo, Miniss., Scelsi & Spamp.) Verloove	NT		2.3; 7.1

Orobanchaceae	Melampyrum italicum (Beauverd) Soó	LC		4.1; 6.1; 9.1
Orobanchaceae	Melampyrum variegatum (Porta & Rigo) Huter	LC		7.1; 7.3
Poaceae	Melica cupanii Guss. subsp. cupanii	NT		1.3; 2.3; 9.3
Lamiaceae	Mentha requienii Benth. subsp. bistaminata Mannocci & Falconcini	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 8.1
Lamiaceae	Micromeria cordata (Moris ex Bertol.) Moris	LC		6.1; 10.3
Lamiaceae	Micromeria graeca (L.) Benth. ex Rchb. subsp. consentina (Ten.) Guinea	LC		1.1; 1.3; 7.1; 7.3
Lamiaceae	Micromeria graeca (L.) Benth. ex Rchb. subsp. garganica (Briq.) Guinea	LC		7.1
Lamiaceae	Micromeria graeca (L.) Benth. ex Rchb. subsp. longiflora (C.Presl) Nyman	DD		
Lamiaceae	Micromeria graeca (L.) Benth. ex Rchb. subsp. tenuifolia (Ten.) Nyman	LC		
Caryophyllaceae	Minuartia glomerata (M.Bieb.) Degen subsp. trichocalycina (Ten. & Guss.) F.Conti	LC		
Caryophyllaceae	Moehringia concarenae F.Fen. & F.Martini	LC		
Caryophyllaceae	Moehringia dielsiana Mattf.	NT		5.2; 6.1
Caryophyllaceae	Moehringia glaucovirens Bertol.	LC		3.2
Caryophyllaceae	Moehringia insubrica Degen	LC		
Caryophyllaceae	Moehringia markgrafii Merxm. & Gutermann	LC		
Caryophyllaceae	Moehringia papulosa Bertol.	CR	B1ab(iii,iv,v)+2ab(iii,iv,v)	3.2; 6.1
Boraginaceae	Moltkia suffruticosa (L.) Brand subsp. bigazziana Peruzzi & Soldano	LC		3; 4; 11
Boraginaceae	Moltkia suffruticosa (L.) Brand subsp. suffruticosa	NT		7.3
Asparagaceae	Muscari botryoides (L.) Mill. subsp. longifolium (Rigo) Garbari	LC		
Asparagaceae	Muscari gussonei (Parl.) Nyman	EN	B2ab(ii,iii,iv)	1.1; 1.3; 2; 2.3; 7.3
Boraginaceae	Myosotis decumbens Host subsp. florentina Grau	DD		
Boraginaceae	Myosotis graui Selvi	LC		
Boraginaceae	Myosotis sylvatica Hoffm. subsp. elongata (Strobl) Grau	LC		
Boraginaceae	Myosotis tineoi C.Brullo & Brullo	CR	B1ab(i,ii,iv,v)+2ab(i,ii,iv,v)	1.1; 2.3; 4.1; 7.3
Amaryllidaceae	Narcissus supramontanus Arrigoni subsp. cunicularium Arrigoni	NT		1.3; 5.2; 6.1; 8.1
Amaryllidaceae	Narcissus supramontanus Arrigoni subsp. supramontanus	NT		2.3; 5.2; 10.3
Lamiaceae	Nepeta foliosa Moris	VU	D2	2.3; 6.1; 10.3
Ranunculaceae	Nigella arvensis L. subsp. glaucescens (Guss.) Greuter & Burdet	EN	A2c+B2ab(i,ii,iii,iv,v)	2.1; 2.3; 7.1; 9.3
Orchidaceae	Nigritella buschmanniae Teppner & Ster	NT		1; 5
Brassicaceae	Noccaea stylosa (Ten.) Rchb.	LC		
Brassicaceae	Noccaea torreana (Ten.) Bartolucci, Galasso & Peruzzi	DD		
Brassicaceae	Odontarrhena argentea (All.) Ledeb.	NT		4.1; 7.3
Brassicaceae	Odontarrhena bertolonii (Desv.) Jord. & Fourr. subsp. bertolonii	LC		2.2.1; 3.2; 7.3
Brassicaceae	Odontarrhena nebrodensis (Tineo) L.Cecchi & Selvi subsp. nebrodensis	NT		2.3
Brassicaceae	Odontarrhena tavolarae (Briq.) L.Cecchi & Selvi	NT		2.3; 6.1
Orobanchaceae	Odontites bocconei (Guss.) Walp. subsp. angustifolius (Lojac.) Giardina & Raimondo	LC		7.1
Orobanchaceae	Odontites bocconei (Guss.) Walp. subsp. bocconei	LC		2.3; 7.1
Orobanchaceae	Odontites rigidifolius (Biv.) Benth.	LC		7.1
Orobanchaceae	Odontites sillettii Brullo, Tomaselli & Wagens.	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	2.3; 7.1
Apiaceae	Oenanthe lisae Moris	LC		2.3; 7.2; 11.2
Asparagaceae	Oncostema dimartinoi (Brullo & Pavone) F.Conti & Soldano	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	6.1
Asparagaceae	Oncostema sicula (Tineo) Speta	CR	A2ac	2.1; 3.3
Asparagaceae	Oncostema ughii (Tineo) Speta	LC		
Fabaceae	Onobrychis alba (Waldst. & Kit.) Desv. subsp. echinata (Guss.) P.W.Ball	NT		2.3; 7.2; 7.3
Fabaceae	Onobrychis calabrica Sirj.	DD		
Fabaceae	Ononis cristata Mill. subsp. apennina Tammaro & Catonica	LC		
Fabaceae	Ononis masquillieri Bertol.	DD		
Boraginaceae	Onosma echioides (L.) L. subsp. angustifolia (Lehm.) Peruzzi & N.G.Passal.	DD		
Boraginaceae	Onosma echioides (L.) L. subsp. canescens (C.Presl) Peruzzi & N.G.Passal.	NT		7.1

Boraginaceae	Onosma echioides (L.) L. subsp. echioides	LC		
Boraginaceae	Onosma pseudoarenaria Schur subsp. lucana (Lacaita) Rauschert	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 4.1; 6.1; 7.3; 10.3
Boraginaceae	Onosma pseudoarenaria Schur subsp. tridentina (Wettst.) Br.-Bl.	VU	B1ab(iii,v)+2ab(iii,v)	7.3; 11.1
Orchidaceae	Ophrys appennina Romolini & Soca	LC		
Orchidaceae	Ophrys apulica (O.Danesch & E.Danesch) O.Danesch & E.Danesch	LC		
Orchidaceae	Ophrys archimedea P.Delforge & M.Walravens	LC		1.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys argentaria Devillers-Tersch. & Devillers	LC		
Orchidaceae	Ophrys ausonia Devillers, Devillers-Tersch. & P.Delforge	LC		
Orchidaceae	Ophrys bertolonii Moretti subsp. bertoloniformis (O.Danesch & E.Danesch) H.Sund	LC		
Orchidaceae	Ophrys bertolonii Moretti subsp. explanata (Lojac.) Soca	VU	B1ab(iii)	1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys biancae (Tod.) Macch.	LC		1.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys biscutella O.Danesch & E.Danesch	NT		2.1; 4.1; 7.3
Orchidaceae	Ophrys brutia P.Delforge	LC		
Orchidaceae	Ophrys calliantha Bartolo & Pulv.	LC		1.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys chestermanii (J.J.Wood) Gölz & H.R.Reinhard	LC		4.1
Orchidaceae	Ophrys cinnabarina Romolini & Soca	LC		
Orchidaceae	Ophrys classica Devillers-Tersch. & Devillers	LC		
Orchidaceae	Ophrys conradiae Melki & Deschatres	NT		7.3
Orchidaceae	Ophrys crabronifera Sebast. & Mauri	LC		
Orchidaceae	Ophrys exaltata Ten. subsp. exaltata	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1; 7.3
Orchidaceae	Ophrys exaltata Ten. subsp. montis-leonis (O.Danesch & E.Danesch) Soca	LC		7.3
Orchidaceae	Ophrys exaltata Ten. subsp. morisii (Martelli) Del Prete	LC		
Orchidaceae	Ophrys flammeola P.Delforge	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys gackiae P.Delforge	VU	B1ab(iii)	1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys gravinensis D'Alonzo	EN	D	5.2; 7.1; 7.3
Orchidaceae	Ophrys holosericea (Burm.f.) Greuter subsp. lorenae E.De Martino & Centur.	NT		
Orchidaceae	Ophrys laurensis Geniez & Melki	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys lepida S.Moingeon & J.-M.Moingeon	LC		
Orchidaceae	Ophrys lojaconoi P.Delforge	LC		
Orchidaceae	Ophrys lucana P.Delforge, Devillers-Tersch. & Devillers	LC		
Orchidaceae	Ophrys lucifera Devillers-Tersch. & Devillers	NT		1.1; 1.3; 2.1; 2.3; 4.1; 7.1; 7.3
Orchidaceae	Ophrys lunulata Parl.	LC		
Orchidaceae	Ophrys maritima Pacifico & Soca	LC		7.3
Orchidaceae	Ophrys mattinatae Medagli, A.Rossini, Quitadamo, D'Emerico & Turco	EN	D	4.1
Orchidaceae	Ophrys minipassionis Romolini & Soca	LC		1.1; 2.1; 7.3
Orchidaceae	Ophrys molisana P.Delforge	DD		
Orchidaceae	Ophrys murgiana Cillo, Medagli & Margh.	VU	D2	2.1
Orchidaceae	Ophrys normanii J.J.Wood	NT		4.1
Orchidaceae	Ophrys obaesa Lojac.	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys oestrifera M.Bieb. subsp. montis-gargani Van de Vijver & W.Looken	EN	D	7.1; 7.3
Orchidaceae	Ophrys ortuabis M.P.Grasso & Manca	NT		7.3
Orchidaceae	Ophrys oxyrrhynchos Tod. subsp. celiensis (O.Danesch & E.Danesch) Del Prete	LC		
Orchidaceae	Ophrys oxyrrhynchos Tod. subsp. ingrassiae Dura, Turco, Gennaio & Medagli	NT		7.3
Orchidaceae	Ophrys oxyrrhynchos Tod. subsp. oxyrrhynchos	LC		1.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys panattensis Scrugli, Cogoni & Pessei	NT		2.3; 5.2; 6.1
Orchidaceae	Ophrys panormitana (Tod.) Soó	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Ophrys parvimaculata (O.Danesch & E.Danesch) Paulus & Gack	LC		
Orchidaceae	Ophrys passionis Sennen ex Devillers-Tersch. & Devillers subsp. majellensis (Helga Daiss & Herm.Daiss) Romolini & Soca	LC		
Orchidaceae	Ophrys peucetiae Lozito, D'Emerico, Medagli & Turco	LC		

Orchidaceae	Ophrys pinguis Romolini & Soca	LC		
Orchidaceae	Ophrys pollinensis E.Nelson ex Devillers-Tersch. & Devillers	NT		7.1; 7.3
Orchidaceae	Ophrys promontorii O.Danesch & E.Danesch	LC		
Orchidaceae	Ophrys pseudoatrata S.Hertel & Presser	LC		
Orchidaceae	Ophrys pseudomelena Turco, Medagli & D'Emerico	NT		7.3
Orchidaceae	Ophrys sipontensis (Gumpr.) O.Danesch & E.Danesch	LC		
Orchidaceae	Ophrys sphegodes Mill. subsp. grassoana Cristaudo, Galesi, R.Lorenz & Zelesny	DD		
Orchidaceae	Ophrys tardans O.Danesch & E.Danesch	LC		
Orchidaceae	Ophrys tarentina Gölz & H.R.Reinhard	LC		2.1; 4.1; 7.1; 7.3
Orchidaceae	Ophrys tarquinia P.Delforge	LC		
Orchidaceae	Ophrys tenthredinifera Willd. subsp. grandiflora (Ten.) Kreutz	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1; 7.3
Orchidaceae	Orchis brancifortii Biv.	LC		2.2; 7.3
Rhamnaceae	Oreoherzogia glaucophylla (Sommier) W.Vent	LC		3.2
Asparagaceae	Ornithogalum etruscum Parl. subsp. etruscum	LC		
Asparagaceae	Ornithogalum etruscum Parl. subsp. umbratile (Tornad. & Garbari) Peruzzi & Bartolucci	LC		
Asparagaceae	Ornithogalum exscapum Ten.	LC		7.3
Asparagaceae	Ornithogalum orthophyllum Ten. subsp. orthophyllum	DD		
Orobanchaceae	Orobanche apuana Domina & Soldano	LC		
Orobanchaceae	Orobanche australis Moris ex Bertol.	DD		
Orobanchaceae	Orobanche chironii Lojac.	NT		2.2
Orobanchaceae	Orobanche denudata Moris	NT		2.3; 6.1; 7.2; 10.3
Orobanchaceae	Orobanche ebuli Huter & Rigo	LC		
Orobanchaceae	Orobanche thapsoides Lojac.	CR(PE)		
Fabaceae	Oxytropis pilosa (L.) DC. subsp. caputoi (Moraldo & la Valva) Brilli-Catt., Di Massimo & Gubellini	LC		2.3
Paeoniaceae	Paeonia mascula (L.) Mill. subsp. russoi (Biv.) Cullen & Heywood	DD		
Paeoniaceae	Paeonia officinalis L. subsp. italica N.G.Passal. & Bernardo	LC		5.2
Paeoniaceae	Paeonia sandrae Camarda	LC		5.2
Orobanchaceae	Pedicularis elegans Ten.	LC		2.3; 6.1
Apiaceae	Petagnaea gussonei (Spreng.) Rauschert	EN	B1ab(i,ii,iii)+2ab(i,ii,iii)	7.1; 7.3
Crassulaceae	Petrosedum ochroleucum (Chaix) Niederle subsp. mediterraneum (L.Gallo) Niederle	LC		
Asteraceae	Phagnalon rupestre (L.) DC. subsp. morisianum (Ces., Pass. & Gibelli) Arcang.	LC		
Poaceae	Phleum sardoum (Hack.) Hack.	CR	B2ab(iii,v)	1.3; 6.1; 8.2
Lamiaceae	Phlomis tenorei Soldano	NT		2.1
Brassicaceae	Phyllolepidum rupestre (Sweet) Trinajstić	NT		11
Campanulaceae	Phyteuma ovatum Honck. subsp. pseudospicatum Pignatti	LC		
Asteraceae	Picris scaberrima Guss.	DD		
Asteraceae	Pilosella calabra (Nägeli & Peter) Soják	DD		
Asteraceae	Pilosella cepitina (Gottschl.) Gottschl.	DD		
Asteraceae	Pilosella corvigena (Gottschl.) Gottschl.	DD		
Asteraceae	Pilosella lathraea (Peter) Soják	DD		
Asteraceae	Pilosella macranthiformis (Zahn) S.Bräut. & Greuter	DD		
Asteraceae	Pilosella medioposita (Gottschl.) Gottschl.	DD		
Asteraceae	Pilosella neogelmii (Gottschl.) Gottschl.	DD		
Asteraceae	Pilosella pachycymigera (Gottschl.) Gottschl.	DD		
Asteraceae	Pilosella pseudolactucella Gottschl.	DD		
Asteraceae	Pilosella salernicola (J.Vetter & Zahn) Soják	DD		
Asteraceae	Pilosella schizosciadia Gottschl.	DD		
Asteraceae	Pilosella sciadogena Gottschl.	DD		
Apiaceae	Pimpinella anisoides V.Brig.	LC		2.3; 5.3; 6.1

Apiaceae	Pimpinella gussonei (C.Presl) Bertol.	LC		
Lentibulariaceae	Pinguicula apuana Casper & Ansaldi	NT		6.1; 7.2
Lentibulariaceae	Pinguicula christinae Peruzzi & Gestri	NT		1.3; 11.2
Lentibulariaceae	Pinguicula fiorii Tammaro & Pace	EN	B2ab(iii,v)	5.2
Lentibulariaceae	Pinguicula lattanziae Peruzzi & Gestri	NT		1.3; 11.2
Lentibulariaceae	Pinguicula lavalvae Innangi & Izzo	CR	B1ab(v)+2ab(v)+C2a(ii)	5.2; 6.1; 7.2; 7.3; 11.2; 11.3; 11.4
Lentibulariaceae	Pinguicula mariae Casper	CR	B1ab(i,ii,iii,iv,v)	6.1; 7.2
Lentibulariaceae	Pinguicula poldinii J.Steiger & Casper	NT		5.2; 6.1
Lentibulariaceae	Pinguicula sehuensis Bacch., Cannas & Peruzzi	VU	D2	2.3; 6.1; 10.3
Lentibulariaceae	Pinguicula vallis-regiae F.Conti & Peruzzi	EN	B2ab(iii,v)	5.2
Lentibulariaceae	Pinguicula vulgaris L. subsp. anzalonei Peruzzi & F.Conti	CR	B2ab(iii)	5.2; 6.1
Lentibulariaceae	Pinguicula vulgaris L. subsp. ernica Peruzzi & F.Conti	CR	B1ab(v)+2ab(v)	5.2; 11.2
Lentibulariaceae	Pinguicula vulgaris L. subsp. vestina F.Conti & Peruzzi	EN	A1ac+B2ab(iii,v)	1.3; 2.3
Plantaginaceae	Plantago media L. subsp. brutia (Ten.) Arcang.	NT		2.3; 7.3
Plantaginaceae	Plantago peloritana Lojac.	CR	B2ab(iii)	7.3
Plantaginaceae	Plantago sarda C.Presl	LC		
Polygalaceae	Polygala alpestris Rchb. subsp. angelisii (Ten.) Nym.	LC		7.2; 7.3
Polygalaceae	Polygala alpestris Rchb. subsp. meridionalis Arrigoni	LC		
Polygalaceae	Polygala apiculata Huter, Porta & Rigo	NT		6; 7
Polygalaceae	Polygala carueliana (Burnat ex A.W.Benn.) Caruel	LC		3; 4; 11
Polygalaceae	Polygala flavescens DC. subsp. flavescens	DD		
Polygalaceae	Polygala flavescens DC. subsp. maremmana (Fiori) Arrigoni	LC		
Polygalaceae	Polygala flavescens DC. subsp. pisaurensis (Caldesi) Arcang.	DD		
Polygalaceae	Polygala nicaeensis W.D.J.Koch subsp. italiana (Chodat) Arrigoni	DD		
Polygalaceae	Polygala nicaeensis W.D.J.Koch subsp. peninsularis Arrigoni	LC		
Polygalaceae	Polygala padulae Arrigoni	LC		
Polygalaceae	Polygala preslii Spreng.	LC		7.1; 7.3
Polygalaceae	Polygala sardoa Chodat	EN	B2ab(iii,iv)	2.2; 2.3; 3.2; 4.1; 6.1; 7.3; 9.2; 10.3
Polygalaceae	Polygala sinisica Arrigoni	CR	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)+D	1.3; 2.2; 4.1; 6.1; 7.1
Polygalaceae	Polygala vulgaris L. subsp. valdarnensis (Fiori) Arrigoni	DD		
Polygonaceae	Polygonum tenorei C.Presl	EN	B1ab(iii,v)+2ab(iii,v)	1.3; 2.1; 7.3
Portulacaceae	Portulaca sardoa Danin, Bagella & Marrosu	LC		
Portulacaceae	Portulaca sicula Danin, Domina & Raimondo	LC		
Rosaceae	Potentilla calabra Ten.	LC		
Rosaceae	Potentilla caulescens L. subsp. nebrodensis (Strobl ex Zimmeter) Arrigoni	LC		2.2; 2.3
Rosaceae	Potentilla johanniniana Goiran	DD		
Rosaceae	Potentilla rigoana Th.Wolf	LC		
Primulaceae	Primula albenensis Banfi & Ferl.	LC		5.2; 6.1
Primulaceae	Primula apennina Widmer	LC		6.1; 11.2
Primulaceae	Primula cottia Widmer	LC		
Primulaceae	Primula glaucescens Moretti	LC		
Primulaceae	Primula infecta (Kress) Landolt	LC		5.2
Primulaceae	Primula palinuri Petagna	VU	B1ab(iii,v)+2ab(iii,v)	1.1; 1.3; 6; 7.1; 8; 10.3
Primulaceae	Primula polliniana Moretti	LC		
Primulaceae	Primula recubariensis Prosser & Scorteg.	NT		6.1
Primulaceae	Primula tyrolensis Schott ex Rchb.f.	LC		6.1
Asparagaceae	Prospero hierae Brullo, C.Brullo, Giusso, Pavone & Salmeri	NT		
Rosaceae	Prunus mahaleb L. subsp. cupaniana (Guss. ex É.Huet & A.Huet) Arcang.	NT		
Caprifoliaceae	Pseudoscabiosa limonifolia (Vahl) Devesa	EN	B1ab(v)+2ab(v)	6.1

Asteraceae	Ptilostemon greuteri Raimondo & Domina	CR	B1ab(v)+2ab(v)	1.1; 4.1; 7.1
Asteraceae	Ptilostemon niveus (C.Presl) Greuter	LC		3.2
Apiaceae	Ptychotis sardoa Pignatti & Metlesics	EN	B1ab(iii,iv)+2ab(iii,iv)	2.3; 10.3
Poaceae	Puccinellia gussonei Parl.	CR(PE)		
Boraginaceae	Pulmonaria officinalis L. subsp. marzolae G.Astuti, Peruzzi, Cristof. & P.Pupillo	LC		
Boraginaceae	Pulmonaria vallarsae A.Kern. subsp. apennina (Cristof. & Puppi) L.Cecchi & Selvi	LC		2.3
Boraginaceae	Pulmonaria vallarsae A.Kern. subsp. vallarsae	LC		
Rosaceae	Pyrus castribonensis Raimondo, Schicchi & Mazzola	LC		
Rosaceae	Pyrus ciancioi P.Marino, Spadaro, G.Castellano & Raimondo	LC		
Rosaceae	Pyrus sicanorum Raimondo, Schicchi & P.Marino	LC		5.2; 5.3
Rosaceae	Pyrus vallis-demonis Raimondo & Schicchi	LC		
Fagaceae	Quercus ichnusae Mossa, Bacch. & Brullo	LC		2.2; 2.3; 7.1
Fagaceae	Quercus leptobalana Guss.	LC		1.3; 5.3; 7.1
Fagaceae	Quercus petraea (Matt.) Liebl. subsp. austrotyrrhenica Brullo, Guarino & Siracusa	NT		1.3; 5.3; 7.1
Ranunculaceae	Ranunculus abbaianus Dunkel	CR	D	
Ranunculaceae	Ranunculus angulatus C.Presl	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	2.3; 4.1; 7.2
Ranunculaceae	Ranunculus apenninus (Chiov.) Pignatti	LC		
Ranunculaceae	Ranunculus baldensis Dunkel	DD		
Ranunculaceae	Ranunculus bariscianus Dunkel	DD		
Ranunculaceae	Ranunculus bilobus Bertol.	DD		
Ranunculaceae	Ranunculus bovioi Dunkel	DD		
Ranunculaceae	Ranunculus braun-blanquetii Pignatti	DD		
Ranunculaceae	Ranunculus cochlearifer Dunkel	DD		
Ranunculaceae	Ranunculus cymbalariifolius Balb. ex Moris	LC		2.3; 7
Ranunculaceae	Ranunculus farraensis Dunkel	DD		
Ranunculaceae	Ranunculus fiorii Pignatti	CR(PE)		
Ranunculaceae	Ranunculus fraelensis Dunkel	CR(PE)		7.2
Ranunculaceae	Ranunculus giordanoi F.Conti & Bartolucci	VU	D2	2.3
Ranunculaceae	Ranunculus gortanii Pignatti	DD		
Ranunculaceae	Ranunculus hostiliensis Pignatti	EX		
Ranunculaceae	Ranunculus luminarius Rigo ex Pignatti	DD		
Ranunculaceae	Ranunculus magellensis Ten.	DD		
Ranunculaceae	Ranunculus marsicus Guss. & Ten.	DD		
Ranunculaceae	Ranunculus mediogracilis Dunkel	DD		
Ranunculaceae	Ranunculus monspeliacus L. subsp. aspromontanus (Huter, Porta & Rigo ex Huter) Peruzzi & N.G.Passal.	EN	B1ab(iii,v)+2ab(iii,v)	7.2; 7.3
Ranunculaceae	Ranunculus multidens Dunkel	DD		
Ranunculaceae	Ranunculus mutinensis Pignatti	EX		
Ranunculaceae	Ranunculus palaeoeuganeus Pignatti	DD		
Ranunculaceae	Ranunculus pedemontanus Dunkel	CR	D	7.3
Ranunculaceae	Ranunculus pedrottii Spinosi ex Dunkel	DD		
Ranunculaceae	Ranunculus plavensis Dunkel	DD		
Ranunculaceae	Ranunculus poldinii Dunkel	DD		
Ranunculaceae	Ranunculus pollinensis (N.Terracc.) Chiov.	LC		
Ranunculaceae	Ranunculus pratensis C.Presl	LC		2.3; 4.1; 7.2
Ranunculaceae	Ranunculus prosseri Dunkel	DD		
Ranunculaceae	Ranunculus silanus Pignatti	DD		
Ranunculaceae	Ranunculus spicatus Desf. subsp. rupestris (Guss.) Maire	LC		7.1
Ranunculaceae	Ranunculus thomasii Ten.	LC		
Ranunculaceae	Ranunculus venetus Huter ex Landolt	DD		

Fabaceae	Retama raetam (Forssk.) Webb & Berthel. subsp. gussonei (Webb) Greuter	VU	B1ab(iii)+2ab(iii)	
Rhamnaceae	Rhamnus lojaconoi Raimondo	CR	B1ab(iii,v)+2ab(iii,v)+D	5.3
Rhamnaceae	Rhamnus persicifolia Moris	EN	B1ab(iii,iv)+2ab(iii,iv)	2.3; 6.1; 7.3; 10.3; 11.4
Asteraceae	Rhaponticoides centaurium (L.) M.V.Agab. & Greuter	VU	B1ab(iii,v)+2ab(iii,v)	2.1; 6; 7.3
Orobanchaceae	Rhinanthus apuanus Soldano	LC		1; 3.2
Orobanchaceae	Rhinanthus helenae Chabert	CR	B1ab(iii)+2ab(iii)	7.3
Orobanchaceae	Rhinanthus wettsteinii (Sterneck) Soó	LC		
Brassicaceae	Rhizobotrya alpina Tausch	VU	B1ab(iii,v)	1.3; 7.3
Grossulariaceae	Ribes multiflorum Kit. ex Roem. & Schult. subsp. sandalioticum Arrigoni	EN	C2a(i)	1.3; 2.2; 2.3; 6.1
Grossulariaceae	Ribes sardoum Martelli	CR	B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)+D	2.3; 6.1; 10.3
Iridaceae	Romulea bocchierii Frignani & Iiriti	NT		
Iridaceae	Romulea insularis Sommier	CR	B1ab(iii,v)	2.2; 2.3; 7.3
Iridaceae	Romulea linaresii Parl. subsp. linaresii	NT		1.1; 1.3
Rosaceae	Rosa viscosa Jan ex Guss.	EN	B1ab(iii,v)+2ab(iii,v)	4.1; 6.1; 7.3
Rosaceae	Rubus aetneus Tornab.	DD		
Rosaceae	Rubus arrigonii Camarda	DD		
Rosaceae	Rubus cupanianus Guss.	DD		
Rosaceae	Rubus festii H.E.Weber	DD		
Rosaceae	Rubus laconensis Camarda	DD		
Rosaceae	Rubus limbarae Camarda	DD		
Rosaceae	Rubus pignattii Camarda	DD		
Polygonaceae	Rumex aetnensis C.Presl	VU	D2	1.3; 4.1; 10.1
Polygonaceae	Rumex pulcher L. subsp. suffocatus (Moris ex Bertol.) Nyman	LC		2.3; 4.1; 7.3
Polygonaceae	Rumex scutatus L. subsp. glaucescens (Guss.) Brullo, Scelsi & Spamp.	LC		1.1; 1.3; 2.1; 2.3; 4.1; 10.1; 11.4
Rutaceae	Ruta lamarmorae Bacch., Brullo & Giusso	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 4.1
Caryophyllaceae	Sabulina verna (L.) Rchb. subsp. grandiflora (C.Presl) Dillenb. & Kadereit	LC		1.3; 2.1; 2.3; 4.1
Salicaceae	Salix arrigonii Brullo	VU	B2ab(iii,iv)	2.3; 7.1
Salicaceae	Salix brutia Brullo & Spamp.	LC		
Salicaceae	Salix crataegifolia Bertol.	NT		1.2; 3.2; 11
Salicaceae	Salix gussonei Brullo & Spamp.	LC		7.1; 7.2
Salicaceae	Salix ionica Brullo, Scelsi & Spamp.	NT		7.1; 7.2
Salicaceae	Salix nebrodensis C.Brullo, Brullo, Cambria & Giusso	LC		2.1; 5.3; 7.1
Salicaceae	Salix oropotamica Brullo, Scelsi & Spamp.	LC		7.1; 7.2
Salicaceae	Salix purpurea L. subsp. eburnea (Borzì) Cif. & Giacom. ex Pignatti	NT		4.1; 7.2; 7.3
Salicaceae	Salix tyrrhenica Brullo, Scelsi & Spamp.	LC		7.1; 7.2
Lamiaceae	Salvia ceratophylloides Ard.	CR	B1ab(iii)	2.1; 2.2; 3.2; 7.1
Lamiaceae	Salvia desoleana Atzei & V.Picci	DD		
Lamiaceae	Salvia fruticosa Mill. subsp. thomasii (Lacaita) Brullo, Guglielmo, Pavone & Terrasi	NT		2.1; 2.2; 4.1; 7.1; 9.3; 10.3
Lamiaceae	Salvia haematodes L.	LC		2.1; 2.3; 6.1; 7.1
Lamiaceae	Salvia pratensis L. subsp. saccardiana (Pamp.) Poldini	NT		7.3
Rosaceae	Sanguisorba dodecandra Moretti	NT		
Asteraceae	Santolina etrusca (Lacaita) Marchi & D'Amato	NT		2.3; 4.1; 6.1; 7.3
Asteraceae	Santolina insularis (Gennari ex Fiori) Arrigoni	LC		
Asteraceae	Santolina ligustica Arrigoni	NT		6.1; 7.1
Asteraceae	Santolina neapolitana Jord. & Fourr.	EN	B1ab(i,ii,iii)	7.3
Asteraceae	Santolina pinnata Viv.	LC		3.2
Saxifragaceae	Saxifraga arachnoidea Sternb.	LC		5.2
Saxifragaceae	Saxifraga berica (Bég.) D.A.Webb	NT		
Saxifragaceae	Saxifraga caprariae Mannocci, Ferretti, Mazzoncini & Viciani	VU	D1	11.4

Saxifragaceae	Saxifraga depressa Sternb.	LC		
Saxifragaceae	Saxifraga exarata Vill. subsp. ampullacea (Ten.) D.A.Webb	LC		
Saxifragaceae	Saxifraga facchinii Koch	NT		1.3; 11.2
Saxifragaceae	Saxifraga hostii Tausch subsp. rhaetica (A.Kern. ex Engl.) Braun-Blanq.	LC		1.3; 5.2; 6.1
Saxifragaceae	Saxifraga italica D.A.Webb	NT		11.2
Saxifragaceae	Saxifraga montis-christi Mannocci, Ferretti, Mazzoncini & Viciani	VU	D1	11.4
Saxifragaceae	Saxifraga oppositifolia L. subsp. speciosa (Dörfl. & Hayek) Engl. & Irmsch.	LC		
Saxifragaceae	Saxifraga porophylla Bertol. subsp. porophylla	LC		
Saxifragaceae	Saxifraga presolanensis Engl.	NT		1.3; 6.1
Saxifragaceae	Saxifraga sedoides L. subsp. tomentosa (Zenari) Poldini	LC		6.1; 11.1
Saxifragaceae	Saxifraga tombeanensis Boiss. ex Engl.	EN	B1ab(iii,iv,v)+2ab(iii,iv,v)	2.2; 5.2; 7.3; 11.2
Saxifragaceae	Saxifraga vandellii Sternb.	LC		5.2; 6.1
Caprifoliaceae	Scabiosa holosericea Bertol.	LC		
Caprifoliaceae	Scabiosa parviflora Desf.	NT		2.2; 7.1; 10.2
Caprifoliaceae	Scabiosa uniseta Savi	LC		
Caprifoliaceae	Scabiosa vestina Facchini ex W.D.J.Koch	LC		6.1; 11.1
Caryophyllaceae	Scleranthus aetnensis Strobl	VU	D2	1.3; 4.1; 10.1
Caryophyllaceae	Scleranthus perennis L. subsp. stroblii (Rchb. ex Strobl) Giardina & Raimondo	DD		
Caryophyllaceae	Scleranthus perennis L. subsp. vulcanicus (Strobl) Bég.	VU	D2	1.3; 4.1; 10.1
Asteraceae	Scorzonera callosa Moris	NT		2.2; 2.3; 6.1; 7.3
Asteraceae	Scorzonera hispanica L. subsp. neapolitana (Grande) Greuter	DD		
Asteraceae	Scorzonera villosa Scop. subsp. columnae (Guss.) Nyman	LC		1.1; 2.1; 7.1
Asteraceae	Scorzoneroides montana (Lam.) Holub subsp. breviscapa (DC.) Greuter	LC		
Scrophulariaceae	Scrophularia morisii Vals.	DD		
Lamiaceae	Scutellaria columnae All. subsp. gussonei (Ten.) Arcang.	DD		
Lamiaceae	Scutellaria rubicunda Hornem.	LC		1.1; 1.3; 2.3; 9.3
Crassulaceae	Sedum alsinifolium All.	LC		
Crassulaceae	Sedum aquilanum L.Gallo & F.Conti	CR	B1ab(iii,v)+2ab(iii,v)	4.1
Crassulaceae	Sedum magellense Ten. subsp. magellense	LC		
Crassulaceae	Sempervivum dolomiticum Facchini	LC		
Crassulaceae	Sempervivum riccii Iberite & Anzal.	LC		5.2
Asteraceae	Senecio glaucus L. subsp. hyblaeus Brullo	LC		2.1
Asteraceae	Senecio morisii J.Calvo & Bacch.	VU	D2	5.3; 7.2; 11.1
Asteraceae	Senecio nemorensis L. subsp. apuanus (Tausch) Greuter	LC		1.3
Asteraceae	Senecio ovatus (P.Gaertn., B.Mey. & Scherb.) Willd. subsp. stabianus (Lacaita) Greuter	LC		7.3
Asteraceae	Senecio scopolii Hoppe & Hornsch. ex Bluff & Fingerh. subsp. floccosus (Bertol.) Greuter	LC		2.3
Asteraceae	Senecio squalidus L. subsp. aethnensis (Jan ex DC.) Greuter	LC		10.1
Asteraceae	Senecio squalidus L. subsp. calabrus (Fiori) Peruzzi & Bernardo	LC		7.3
Asteraceae	Senecio squalidus L. subsp. chrysanthemifolius (Poir.) Greuter	NT		10.1
Asteraceae	Senecio squalidus L. subsp. microglossus (Guss.) Arcang.	DD		
Asteraceae	Senecio squalidus L. subsp. sardous Greuter	NT		7.2; 7.3; 11.2
Asteraceae	Senecio squalidus L. subsp. squalidus	NT		1.1; 1.3; 4.1; 7.1
Orchidaceae	Serapias cordigera L. subsp. lucana R.Lorenz & V.A.Romano	LC		
Orchidaceae	Serapias cossyrensis B.Baumann & H.Baumann	VU	D2	1.3; 6.1.
Orchidaceae	Serapias francavillae Cristaudo, Galesi & R.Lorenz	NT		
Orchidaceae	Serapias intermedia Forest ex F.W.Schultz subsp. hyblaea Cristaudo, Galesi & R.Lorenz	LC		1.1; 1.3; 2.1; 2.3; 4.1; 7.1
Orchidaceae	Serapias nurrica Corrias subsp. santuingensis (Senis, M.P.Grasso & Orrù) Senis, M.P.Grasso & Orrù	CR	B1ab(iii,v)+2ab(iii,v)	2.1; 2.2; 2.3; 4.1; 7.1; 8.1
Orchidaceae	Serapias orientalis (Greuter) H.Baumann & Künkele subsp. apulica H.Baumann & Künkele	LC		
Orchidaceae	Serapias orientalis (Greuter) H.Baumann & Künkele subsp. siciliensis Bartolo & Pulv.	LC		1.1; 2.3; 4.1; 7.1

Apiaceae	Seseli bocconei Guss.	EN	A2c+B2ab(i,ii,iii,iv,v)	7.3
Apiaceae	Seseli polyphyllum Ten.	LC		7.1
Apiaceae	Seseli tortuosum L. subsp. maritimum (Guss.) C.Brullo, Brullo, Giusso & Sciandrello	EN	B2ab(iii,v)	1.1; 1.2; 1.3; 2.1; 6.1
Poaceae	Sesleria apennina Ujhelyi	LC		
Poaceae	Sesleria calabrica (Deyl) Di Pietro	LC		7.3
Poaceae	Sesleria insularis Sommier subsp. barbaricina Arrigoni	EN	B1ab(iii,v)+2ab(iii,v)	2.3; 6.1; 9.2
Poaceae	Sesleria insularis Sommier subsp. morisiana Arrigoni	VU	B1ab(iii,v)+2ab(iii,v)	2.3; 6.1; 9.2
Poaceae	Sesleria italica (Pamp.) Ujhelyi	LC		
Poaceae	Sesleria nitida Ten. subsp. nitida	LC		1.1; 1.3; 2.3; 4.1; 7.1
Poaceae	Sesleria nitida Ten. subsp. sicula Brullo & Giusso	DD		
Poaceae	Sesleria pichiana Foggi, Gr.Rossi & Pignotti	LC		
Poaceae	Sesleria pulchella (Chiosi) Ubaldi	DD		
Poaceae	Sesleria tuzsonii Ujhelyi	DD		
Apiaceae	Siculosciadium nebrodense (Guss.) C.Brullo, Brullo, S.R.Downie & Giusso	EN	D	2.3
Caryophyllaceae	Silene beguinotii Vals.	LC		6.1; 8.1
Caryophyllaceae	Silene calabra Brullo, Scelsi & Spamp.	LC		
Caryophyllaceae	Silene cattariniana Ferrarini & Cecchi	LC		4.1
Caryophyllaceae	Silene crassiuscula Brullo, C.Brullo, Cambria, Bacch., Giusso & Ilardi	NT		1.1; 1.3; 3.2; 6.1
Caryophyllaceae	Silene echinata Otth	NT		4.1; 7.3
Caryophyllaceae	Silene elisabethae Jan	NT		5.2; 6.1; 10.3; 11.1
Caryophyllaceae	Silene giraldii Guss.	DD		
Caryophyllaceae	Silene hicesiae Brullo & Signor.	CR	B1ab(iv,v)+2ab(iv,v)	1.3; 7.1; 7.3; 8; 10.1; 10.3
Caryophyllaceae	Silene ichnusae Brullo, De Marco & De Marco f.	NT		
Caryophyllaceae	Silene italica subsp. sicula (Ucria) Jeanm.	LC		
Caryophyllaceae	Silene kemoniana C.Brullo, Brullo, Giusso, Ilardi & Sciandr.	NT		2.3; 4.1; 7.1
Caryophyllaceae	Silene lanuginosa Bertol.	LC		
Caryophyllaceae	Silene martinolii Bocchieri & Mulas	NT		7.3
Caryophyllaceae	Silene minae Strobl	DD		
Caryophyllaceae	Silene morisiana Bég. & Ravano	EN	B2ab(iii,v)	2.2; 2.3; 4.1; 6.1
Caryophyllaceae	Silene nefelites C.Brullo, Brullo, Giusso & Ilardi	VU	D2	1.1; 1.3; 4.1
Caryophyllaceae	Silene notarisii Ces.	DD		
Caryophyllaceae	Silene nummica Vals.	LC		1.1; 1.3; 6.1
Caryophyllaceae	Silene oenotriae Brullo	NT		4.1; 6.1
Caryophyllaceae	Silene peloritana C.Brullo, Brullo, Giusso, Miniss. & Sciandr.	VU	D2	2.3; 4.1; 7.1
Caryophyllaceae	Silene pichiana Ferrarini & Cecchi	LC		3.2; 11
Caryophyllaceae	Silene roemeri Friv. subsp. staminea (Bertol.) Nyman	DD		
Caryophyllaceae	Silene rosulata Soy.-Will. & Godr. subsp. sanctae-theresiae (Jeanm.) Jeanm.	EN	B2ab(iii,v)	1.3
Caryophyllaceae	Silene turbinata Guss.	NT		1.1; 1.3; 2.1; 4.1
Caryophyllaceae	Silene valsecchiae Bocchieri	EN	B1ab(iii,v)+2ab(iii,v)	6.1; 7.3; 8.1
Caryophyllaceae	Silene vulgaris (Moench) Garcke subsp. aetnensis (Strobl) Pignatti	NT		1.1; 2.3; 7.1
Apiaceae	Siler montanum Crantz subsp. siculum (Spreng.) Iamonico, Bartolucci & F.Conti	LC		
Brassicaceae	Sisymbrella dentata (L.) O.E.Schulz	LC		
Primulaceae	Soldanella calabrella Kress	EN	B2ab(iii)	2.2; 4.1; 5.3; 6.1; 7.2; 7.3; 11.2
Primulaceae	Soldanella minima Hoppe subsp. samnitica Cristof. & Pignatti	NT		
Primulaceae	Soldanella sacra A.Bellino & L.Bellino	EN	B1ab(iii,v)+2ab(iii,v)	2.2; 2.3; 5.3; 6.1; 7.2; 7.3; 10.3; 11.2
Campanulaceae	Solenopsis mothiana C.Brullo, Brullo & Giusso	NT		7.3
Asteraceae	Solidago litoralis Savi	EN	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	5.2; 7.3
Rosaceae	Sorbus aucuparia L. subsp. praemorsa (Guss.) Nyman	LC		7.1; 10.3
Rosaceae	Sorbus busambarensis G.Castellano, P.Marino, Raimondo & Spadaro	CR	D	8.2

Rosaceae	Sorbus madoniensis Raimondo, G.Castellano, Bazan & Schicchi	EN	D	7.1; 8.2
Caryophyllaceae	Spergula madoniaca (Lojac.) Iamonico	CR	B1ab(iii,v)+2ab(iii,v)	11.2
Rosaceae	Spiraea decumbens W.D.J.Koch subsp. tomentosa (Poech) Dostál	LC		1.3; 6.1
Lamiaceae	Stachys germanica L. subsp. dasyanthes (Raf.) Arcang.	EN	B2ab(iii,v)	1.1; 1.3; 2.3; 7.1
Lamiaceae	Stachys italica Mill.	LC		5.2; 7.1
Lamiaceae	Stachys recta L. subsp. tenoreana Bornm.	DD		
Caryophyllaceae	Stellaria media (L.) Vill. subsp. romana Bég.	DD		
Poaceae	Stipa aquilana Moraldo	DD		
Poaceae	Stipa austroitalica Martinovský subsp. appendiculata (Čelak.) Moraldo	DD		
Poaceae	Stipa austroitalica Martinovský subsp. austroitalica	DD		
Poaceae	Stipa austroitalica Martinovský subsp. frentana Moraldo & Ricceri	LC		3; 7.3
Poaceae	Stipa austroitalica Martinovský subsp. theresiae Martinovský & Moraldo	DD		
Poaceae	Stipa dasyvaginata Martinovský subsp. apenninicola Martinovský & Moraldo	LC		
Poaceae	Stipa etrusca Moraldo	LC		2.2.1; 3.2; 7.3
Poaceae	Stipa feltrina Moraldo, Lasen & Argenti	VU	D1	2.3; 7.3
Poaceae	Stipa oligotricha Moraldo subsp. kiemii (Martinovský) Moraldo	DD		
Poaceae	Stipa oligotricha Moraldo subsp. oligotricha	NT		2.3; 6.2; 7.1
Poaceae	Stipa sicula Moraldo, la Valva, Ricciardi & Caputo	VU	D2	7.1
Poaceae	Stipa valdemonensis Cataldo, S.A.Giardina, Moraldo & Raimondo	VU	D2	2.3; 6.1
Poaceae	Stipa veneta Moraldo	EN	B1ab(i,ii,iv)	7.3
Amaranthaceae	Suaeda kocheri Guss. ex C.Brullo, Brullo & Giusso	EX		
Amaranthaceae	Suaeda pelagica Bartolo, Brullo & Pavone	DD		
Boraginaceae	Symphytum gussonei F.W.Schultz	NT		2.3; 7.1
Asteraceae	Tanacetum vulgare L. subsp. siculum (Guss.) Raimondo & Spadaro	LC		2.1; 2.2
Asteraceae	Taraxacum aemilianum Foggi & Ricceri	LC		
Asteraceae	Taraxacum amplexum Sonck	DD		
Asteraceae	Taraxacum annalisae Carlesi & Peruzzi	NT		
Asteraceae	Taraxacum apenninum (Ten.) DC.	LC		
Asteraceae	Taraxacum apulicum Soest	DD		
Asteraceae	Taraxacum barbaricinum Arrigoni	DD		
Asteraceae	Taraxacum bidentilobum Sonck	DD		
Asteraceae	Taraxacum calabricum Aquaro, Caparelli & Peruzzi	LC		
Asteraceae	Taraxacum caramanicae Lojac.	LC		
Asteraceae	Taraxacum carthusianorum Aquaro, Caparelli & Peruzzi	DD		
Asteraceae	Taraxacum cescae Aquaro, Caparelli & Peruzzi	LC		
Asteraceae	Taraxacum dolomiticum Soest	DD		
Asteraceae	Taraxacum garbarianum Peruzzi, Aquaro, Caparelli & Raimondo	LC		
Asteraceae	Taraxacum genargenteum Arrigoni	DD		
Asteraceae	Taraxacum gianninii Arrigoni, Ferretti & Padula	LC		
Asteraceae	Taraxacum glaciale É.Huet & A.Huet ex Hand.-Mazz.	LC		
Asteraceae	Taraxacum kirschneri Aquaro, Caparelli & Peruzzi	DD		
Asteraceae	Taraxacum lacustre Soest	DD		
Asteraceae	Taraxacum lilianae Aquaro, Caparelli & Peruzzi	DD		
Asteraceae	Taraxacum lucense Arrigoni, Ferretti & Padula	LC		
Asteraceae	Taraxacum mannoccii Carlesi & Peruzzi	NT		
Asteraceae	Taraxacum optimae Aquaro, Caparelli & Peruzzi	DD		
Asteraceae	Taraxacum perrigidum Sonck	DD		
Asteraceae	Taraxacum pollinense Aquaro, Caparelli & Peruzzi	LC		
Asteraceae	Taraxacum rigidipes Sonck	DD		

Asteraceae	Taraxacum sarcidanum Arrigoni	DD		
Asteraceae	Taraxacum sardomontanum Arrigoni	DD		
Asteraceae	Taraxacum siculum Soest	DD		
Asteraceae	Taraxacum tortilobiforme Soest	DD		
Asteraceae	Taraxacum vaccarii Soest	DD		
Asteraceae	Taraxacum vallis-nibulae Arrigoni	LC		
Asteraceae	Taraxacum xantholigulatum Sonck	DD		
Asteraceae	Tephroseris italica Holub	LC		
Lamiaceae	Teucrium siculum (Raf.) Guss. subsp. euganeum (Vis.) Tornad.	LC		6.1
Ranunculaceae	Thalictrum calabricum Spreng.	LC		2.3; 7.1; 7.2; 7.3
Apiaceae	Thapsia garganica L. subsp. messanensis (Guss.) Brullo, Guglielmo, Pasta, Pavone & Salmeri	LC		1.3; 2.1; 2.3; 4.1; 7.1
Apiaceae	Thapsia pelagica Brullo, Guglielmo, Pasta, Pavone & Salmeri	LC		
Thesiaceae	Thesium italicum A.DC.	LC		2.3
Thesiaceae	Thesium sommieri Hendrych	LC		
Lamiaceae	Thymus paronychioides Čelak.	LC		
Lamiaceae	Thymus picentinus (Lacaita) Bartolucci	DD		
Lamiaceae	Thymus praecox subsp. parvulus (Lojac.) Bartolucci, Peruzzi & N.G.Passal.	LC		
Lamiaceae	Thymus richardii Pers. subsp. nitidus (Guss.) Jalas	NT		
Lamiaceae	Thymus spinulosus Ten.	LC		7.1
Asteraceae	Tolpis virgata (Desf.) Bertol. subsp. grandiflora (Ten.) Arcang.	LC		
Apiaceae	Torilis nemoralis (Brullo) Brullo & Giusso	NT		1.3; 5.3
Campanulaceae	Trachelium caeruleum L. subsp. lanceolatum (Guss.) Arcang.	NT		1.1; 4.1
Asteraceae	Tragopogon crocifolius L. subsp. nebrodensis (Guss.) Raimondo	DD		
Asteraceae	Tragopogon porrifolius L. subsp. cupanii (Guss. ex DC.) I.Richardson	DD		
Fabaceae	Trifolium bivonae Guss.	NT		
Fabaceae	Trifolium brutium Ten.	LC		
Fabaceae	Trifolium pratense L. subsp. semipurpureum (Strobl) Pignatti	LC		7.1; 10.1
Fabaceae	Trifolium uniflorum L. subsp. savianum (Guss.) Asch. & Graebn.	NT		
Asteraceae	Tripolium sorrentinoi (Tod.) Raimondo & Greuter	VU	C2a(i)	2.1; 6.1
Poaceae	Trisetaria bournofii (Req. ex Parl.) Banfi & Soldano	NT		
Poaceae	Trisetaria villosa (Bertol.) Banfi & Soldano	LC		7.3; 11
Urticaceae	Urtica rupestris Guss.	VU	B1ab(iii)+2ab(iii)	2.3; 7.1; 7.2
Rubiaceae	Valantia calva Brullo	VU	D2	1.3
Rubiaceae	Valantia deltoidea Brullo	LC		
Scrophulariaceae	Verbascum argenteum Ten.	LC		6; 7.3
Scrophulariaceae	Verbascum magellense Ten.	LC		
Scrophulariaceae	Verbascum niveum Ten. subsp. garganicum (Ten.) Murb.	DD		
Scrophulariaceae	Verbascum niveum Ten. subsp. inarimense Murb.	NT		7.3
Scrophulariaceae	Verbascum plantagineum Moris	VU	B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)	2.1; 2.3; 3.2; 11.4
Scrophulariaceae	Verbascum siculum Tod. ex Lojac.	DD		
Plantaginaceae	Veronica aphylla L. subsp. longistyla (Ball) Arcang.	LC		11
Fabaceae	Vicia consentina Spreng.	NT		2.3; 4.1; 7.3
Fabaceae	Vicia giacominiana Segelb.	CR	B2ab(iii,iv)	1.3
Fabaceae	Vicia ochroleuca Ten. subsp. ochroleuca	LC		1.1; 7.1
Fabaceae	Vicia tenuifolia Roth subsp. elegans (Guss.) Nyman	NT		1.1; 2.3; 7.1
Apocynaceae	Vinca difformis Pourr. subsp. sardoa Stearn	LC		
Violaceae	Viola aethnensis (Ging. & DC.) Strobl subsp. aethnensis	LC		7.1; 10.1
Violaceae	Viola aethnensis (Ging. & DC.) Strobl subsp. messanensis (W.Becker) Merxm. & Lippert	LC		2.3; 4.1; 7.1
Violaceae	Viola aethnensis (Ging. & DC.) Strobl subsp. splendida (W.Becker) Merxm. & Lippert	LC		

Violaceae	Viola bertolonii Pio	LC		5.2
Violaceae	Viola cassinensis Strobl subsp. cassinensis	LC		7.3
Violaceae	Viola cassinensis subsp. pseudogracilis (A.Terracc.) Bartolucci, Galasso & Wagens.	LC		2.3; 5.2
Violaceae	Viola comollia Massara	NT		5.2; 11.1
Violaceae	Viola corsica Nyman subsp. ilvensis (W.Becker) Merxm.	EN	B2ab(iii)	2.3; 5.2; 6.1; 7.3
Violaceae	Viola culminis F.Fen. & Moraldo	LC		
Violaceae	Viola dubyana Burnat ex Gremli	LC		5.2; 6.1; 10.3; 11.1
Violaceae	Viola etrusca Erben	EN	B1ab(iii)+2ab(iii)	7.3
Violaceae	Viola eugeniae Parl. subsp. eugeniae	LC		5.2
Violaceae	Viola eugeniae Parl. subsp. levieri (Parl.) Arcang.	LC		
Violaceae	Viola ferrarinii Moraldo & Ricceri	LC		1.3; 2.3
Violaceae	Viola limbarae (Merxm. & W.Lippert) Arrigoni	NT		1.2; 1.3; 2.3; 4.1; 6.1; 7.1
Violaceae	Viola magellensis Porta & Rigo ex Strobl	LC		11
Violaceae	Viola merxmuelleri Erben	LC		
Violaceae	Viola nebrodensis C.Presl	LC		
Violaceae	Viola tineorum Erben & Raimondo	CR	B2ab(iii)	6; 10
Violaceae	Viola ucriana Erben & Raimondo	CR	B1ab(i,iii,v)+2ab(i,iii,v)	2.3; 7.1; 8.1
Apiaceae	Visnaga crinita (Guss.) Giardina & Raimondo	CR(PE)		
Asteraceae	Xerolekia speciosissima (L.) Anderb.	LC		5.2; 6.1
Ulmaceae	Zelkova sicula Di Pasq., Garfì & Quézel	CR	B1ab(iii)+2ab(iii)+D	7.1; 11.2

Table A2. Major threats to Italian endemic vascular plants. The number of species under major threats (in bold) is in some cases higher than the sum of subcategories, since for some species only general threats could be identified.

Major threat	N° of taxa
1. Residential and commercial development	**316**
1.1 Housing and urban areas	104
1.2 Commercial and industrial areas	10
1.3 Tourism and recreational areas	193
2. Agriculture and aquaculture	**323**
2.1 Annual and perennial non-timber crops	59
2.2 Wood and pulp plantations	48
2.3 Livestock farming and ranching	210
2.4 Marine and freshwater aquaculture	1
3. Energy production and mining	**58**
3.1 Oil and gas drilling	0
3.2 Mining and quarrying	49
3.3 Renewable energy	4
4. Transportation and service corridors	**161**
4.1 Roads and railroads	153
4.2 Utility and service lines	5
4.3 Shipping lanes	1
4.4 Flight paths	0
5. Biological resource use	**99**
5.1 Hunting and collecting terrestrial animals	0
5.2 Gathering terrestrial plants	72
5.3 Logging and wood harvesting	22
5.4 Fishing and harvesting aquatic resources	0
6. Human intrusions and disturbance	**274**
6.1 Recreational activities	249
6.2 War, civil unrest and military exercises	8
6.3 Work and other activities	3
7. Natural system modifications	**450**
7.1 Fire and fire suppression	186
7.2 Dams and water management/use	43
7.3 Other ecosystem modifications	208
8. Invasive and other problematic species, genes and diseases	**84**
8.1 Invasive non-native/ alien species/ diseases	51
8.2 Problematic native species/ diseases	27
8.3 Introduced genetic material	0
8.4 Problematic species/ diseases of unknown origin	1
8.5 Viral/ prion-induced diseases	0
8.6 Diseases of unknown cause	0
9. Pollution	**35**
9.1 Domestic and urban waste water	5
9.2 Industrial and military effluents	3
9.3 Agricultural and forestry effluents	19
9.4 Garbage and solid waste	8
9.5 Air-borne pollutants	0
9.6 Excess energy	0
10. Geological events	**107**
10.1 Volcanoes	25
10.2 Earthquakes/Tsunamis	2
10.3 Avalanches/ landslides	78
11. Climate change and severe weather	**68**
11.1 Habitat shifting and alteration	23
11.2 Droughts	17
11.3 Temperature extremes	1
11.4 Storms and flooding	8

11.5 Other impacts	0
12. Other options	**1**
12.1 Other threats	1