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Study of flora, life form and chorology of plants in Qom province, Iran

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Abstract
Qom province with the surface area of 11526 km^2 lies between 34˚8′35˚11′N and 50˚4′51˚59′E is located in Iran. According to the Global Bioclimatic Classification System (GBC), Qom province characterized by a Mediterranean climate and of xeric and desertic continental sub-climates. A checklist was prepared to outline the species richness of the studied area, including 841 plant species representing 385 genera and 81 families. 109 species were also reported for the first time, which were not previously reported from this province in botanical sources and studies. Angiosperms are represented by 734 and 100, Eudicots and Monocots, respectively. The prominent families are Asteraceae with, 117 and Fabaceae with, 87 species. Richest genera fall into *Astragalus* (59), *Salsola* (16) and *Cousinia* (15). However, 51.8% of the families are monogene0ric, while 59.5% of the monogeneric families are monospecific. Therophyte (37.9%) and hemicryptophyte (35.1%) are dominant life form spectra in the studied area. Results also indicate the Irano-Turanian species (60.2%) are the main chorological elements of Qom province. Of all studied species, nearly 63 (7.5%) belong to Iranian endemics. The main vegetation types found in Qom province include semi-desert *Artemisia* steppe, thorn-cushion mountain steppe, open shrublands, cliff vegetation, marl and gypsophilous vegetation, halophytic vegetation, psammophyte vegetation, aquatic and riverine communities, as well as invasive and ruderal communities. By using species richness analysis in 0.1-degree grids, Veshnaveh and Palang Darre were identified as the richest areas of Qom province.
Keywords: Chorology, endemic, life form, Qom, species richness, vegetation.

Introduction

Iran is located in Southwest Asia, representing different climates and habitats and researchers have already been reported more than 8600 plant species. Regarding the number of species, the largest Iranian angiosperm families are belonging to Fabaceae (1401 spp.) and Asteraceae (1234 spp.), while families Asteraceae, Poaceae, Apiaceae and Fabaceae are found to be characterized by the higher number of genera. In addition, the largest genera of Iran are *Astragalus* and *Cousinia* with about 830 and 280 species, respectively (Ghahremaninejad & Falatoury, 2016). Floristic surveys have provided precious information regarding species composition, life form, chorology, plant conservation, and introducing new genera and species (Memariani et al., 2016; Amiri & Jabbarzadeh, 2011; Kargar-Chigani et al., 2017; Akhavan Roofigar & Bagheri, 2021; Mahmoodi et al., 2022; Mohammadi et al., 2022; Razbani et al., 2023), and

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Flora Iranica (Rechinger, 1963-2015) and Flora of Iran (Assadi et al., 1987-2023) are critically provided comprehensive literature for floristic investigations in Iran.

In the case of richness value, each region is expected to exhibit a unique species richness attributed to various factors such as climate, species interactions, geographical location, elevation, and others. The presence of deserts, saline plains, and high mountains has contributed to the formation of diverse habitats and high species richness in Qom province (Najimi & Shafiei, 2009). Moreover, climatic features and varying ecological conditions have resulted in a high level of vegetation diversity within the studied region. All the aforementioned factors contribute to a significant level of species distribution in desert, semi-desert, steppe, semi-steppe, and mountainous regions(Najimi & Shafiei, 2009).

Qom province underwent preliminary investigation by Mehrabian et al. (2007), although their findings did not include a checklist. Subsequently, Najimi and Shafiei (2009) compiled data from various studies and presented a checklist of more than 700 species in their book. Tavakkoli and Mozaffarian (2005) also published their research on the Kobar watershed. The current study is executed to provide a floristic checklist of Qom province, to compare the floristic composition of the studied region with adjacent regions near Qom, to find out the most dominant life forms and chorological elements, to document Iranian endemics within the studied region and finding the area with the highest species richness.

Materials and Methods

Study area: The current study focused on Qom province, which covers a surface area of 11526 km^2 (Ashouri, 2012). It lies between 34˚8′ 35˚11′ N and 50˚4′ 51˚59′ E. The north side of the Qom province is bounded by Tehran, while Markazi, Esfahan and Semnan provinces delimit the west, south, and east parts of the studied area (Figure 1A). Elevation (McVicar & Körner, 2013) ranges between 750 (near Kavir desert) to 3200 (Barf Anbar Mountain) meters above sea level (Figure 1B). Based on the Global Bioclimatic Classification System (GBC), Qom province has a Mediterranean climate, along with xeric and desertic continental sub-climates (Djamali et al., 2011).

From a geological perspective, the Qom formation has been examined by various researchers, with several authorities proposing the Oligocene-Miocene formations for Qom province. (Amirshahkarami & Karavan, 2015). Indeed, the collision of Iranian and African/Arabian plates led to the Tethyan closure and origin of the central Iranian microplate within the Miocene (Coleman-Sadd, 1982; Harzhauser & Piller, 2007; Reuter et al., 2009). The plains of Qom province containe evaporative deposits (Salt Lake, Houz-e-Soltan and GhadirAsb), and readily distinguished from the higher plains of mountainous regions by three geological formations (Qom formation, upper red formation and lower red formation). The mountainous region of the studied region subdivided into sedimentary, tuff and shale parts (Darvishzadeh, 2004). Regarding the soil texture of the studied area, the high-lands (mountains and hills) are mainly composed of lithosol and leptosol particles whereas solonchak is the most significal content of soil in salty areas (Ashouri, 2012).

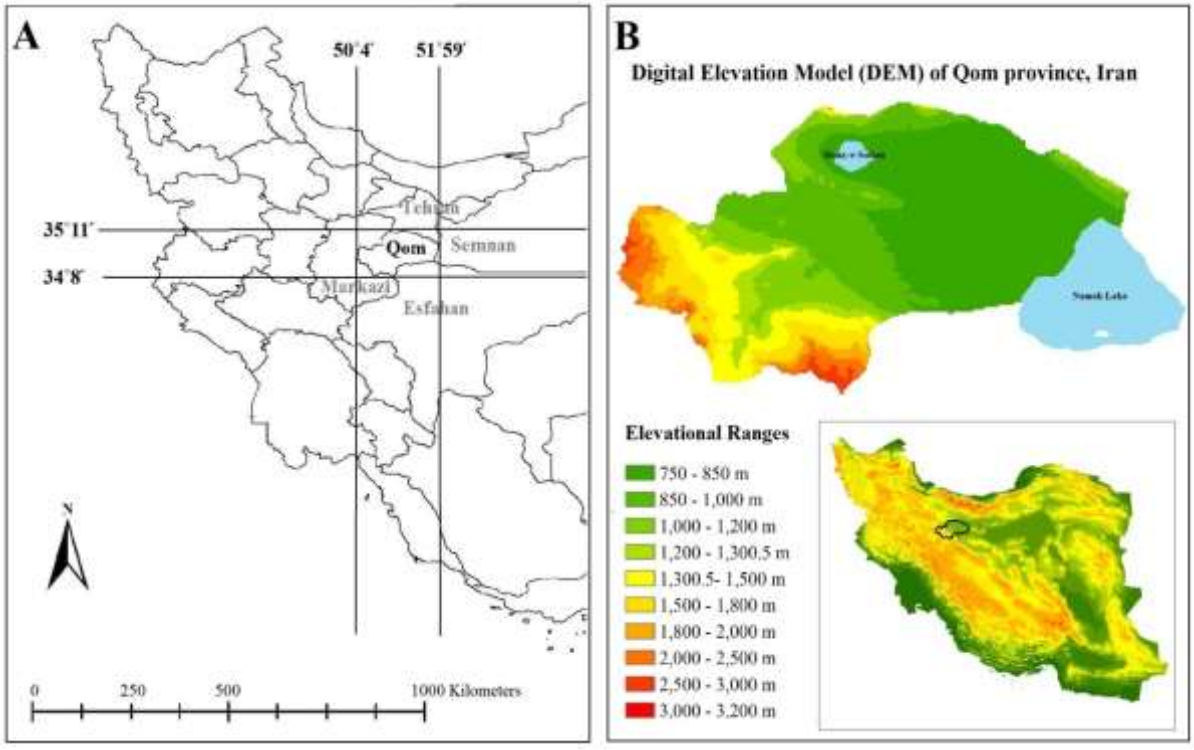

Figure 1. A) The geographical status of Qom Province (prepared by Arc GIS 10.5) and **B**) its topography within Iran.

The lowest annual (January 2016 to 2017) precipitation belongs to the Kushk-e-Nosrat climate station (110 mm), while the highest relates to Dastjerd climate station (225 mm). Maximum and minimum annual temperature ranges between -5 to 42˚C, respectively

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(data from meteorological department of Qom province; https://www.ghommet.ir). Ombrothermic diagrams of climatic stations use to identify dry and wet months. Ombrothermic diagrams prepared using meteorological data (January 2016 to 2017) of Kuhsefid, Kushk-e-Nosrat, Kahak and Dastjard climatic stations in the northeast, northwest, south and west of the province respectively (data from meteorological department of Qom province). As can be seen in the Figure 2, in most parts of the province, May to October (orange parts) are dry months and November to April (blue parts) are wet months.

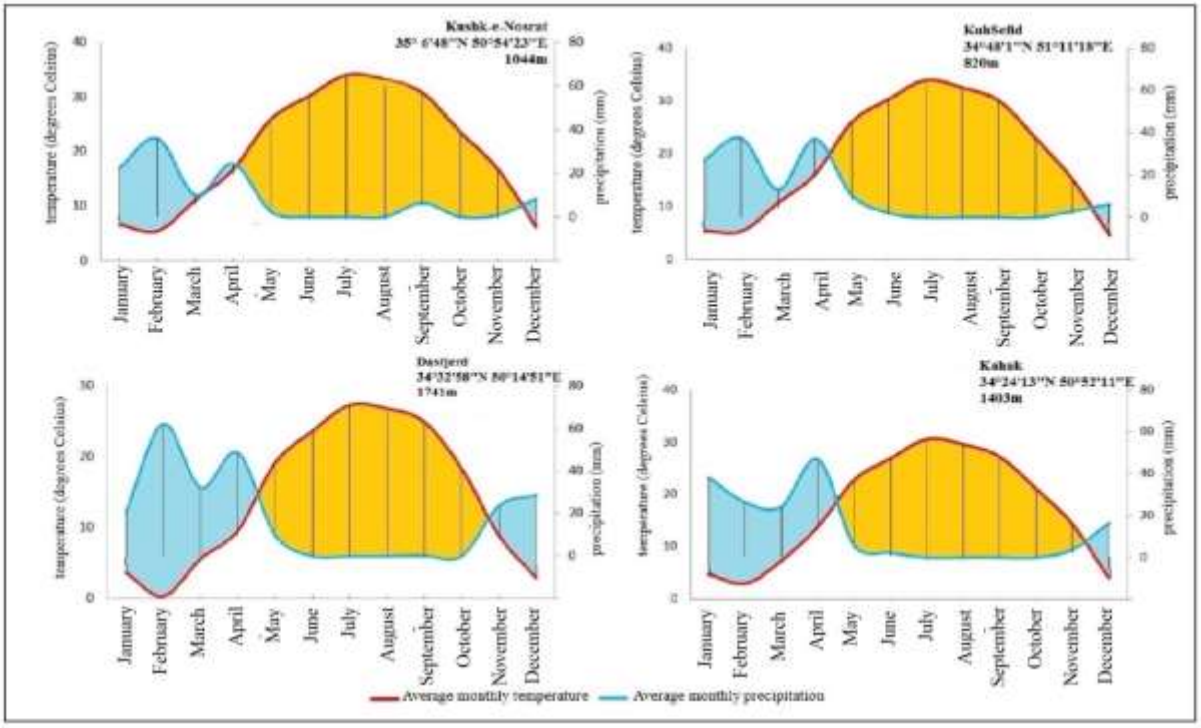

Figure 2. Ombrothermic diagrams of climatic stations in Qom province (January 2016 to 2017)

Methods: Plant sampling was conducted from 2015 to 2018, and they were identified mainly based on Flora Iranica (Rechinger, 1963-2015), Flora of Iran (Assadi et al., 1987-2023), and other literature (Davis et al., 1965-1985; Nasir, 1970-2002; Tutin et al., 1964-1980). Plant specimens have already been preserved in the Herbarium of Shiraz University (HSHU). By conducting research on the Flora of Iran (1987-2023) and the Flora Iranica (1963-2015), we extracted and georeferenced species recorded from Qom province. Subsequently, the coordinate and elevation information of these species was imported into the database. The life form and chorological element terminologies followed the concepts of Raunkiaer (1934) and Zohary et al. (1980-1994) and White & Léonard (1991) respectively.

Physiognomy refers to the morphological characteristics of vegetation, which are primarily determined by the life form of the dominant plant species. This method relies on visual appearance and is commonly used for conducting preliminary investigations of vegetation across large geographical areas, particularly at smaller scales (Asri, 2009). In the present study, the physiognomy method was employed to describe the vegetation of Qom province.

Species richness or the number of species per unit area is the oldest and simplest way to measure diversity (Ejtehadi et al., 2013). For this purpose, the geographic coordinates of each species were recorded during plant sampling and data were imported into the map. The number of species in each grid with dimensions of approximately 0.1 degrees (10*10 km) was counted, and a species richness map was drawn by Diva GIS software (ver. 7.5).

The elevation range varies from 750 to 3200 meters above sea level in Qom province, and this indicates the dominance of two desert and mountainous ecosystems in this province (Najimi & Shafiei, 2009). The results of this study were used to confirm the governance of two above-mentioned ecosystems. For this purpose, we categorized Digital Elevation Model (DEM) of Qom province into two distinct regions using a modification of the Jenks (1967) natural breaks classification method. It clusters data into groups that minimize the intra-group variance and maximize the inter-group variance (Jenks, 1967). Thereby, the elevation of 1300.5 m recognized as the boundary between mountainous and plain areas. In the next step, species composition (richest families, Chorology and life forms) of each region were analysed.

Results

In this study, 1829 plant specimens were collected within 91 regions and 641 collection sites across different seasons from 2015 to 2018. By supplementing these specimens with an additional 194 species from the Flora Iranica and the Iranian Flora (indicated by an asterisk "*" in Table 3) a total of 81 families, comprising 841 species and 385 genera, were recorded in Qom province. Among these, three families, seven species, and four genera belong to Pteridophyta and Gymnospermae (as shown in Table 1). Regarding

Angiosperms, eudicots are the largest group compared to other groups in the studied area. With respect to families, the number of eudicots (79.01%) and monocots (17.28%) showed remarkable differences. In respect of genera and species, eudicot genera (84.68%) and species (87.28%) also unraveled higher numbers than that of monocots. The species richness in Gymnosperms and Pteridophyta are almost similar (Table 1).

Table 1. Distribution of pteridophyta, gymnosperms, and angiosperms (mono- and dicotyledons) within the studied region (Qom province). Abbreviations are defined as following: **No**: Number and **Per**: Percentage.

Plant divisions		Family		Genera		Species	
		No	**Per (%)**	**No**	**Per (%)**	**No**	**Per (%)**
Pteridophyta		2	2.47	3	0.78	3	0.36
Gymnospermae		1	1.23	1	0.26	4	0.48
Angiospermae	Monocots	14	17.28	55	14.28	100	11.89
	Eudicots	64	79.01	326	84.68	734	87.28
Total		**81**	**100**	**385**	**100**	**841**	**100**

Monogeneric families characterized by the highest numbers in the studied region (42 families, 51.8%) and 59.5% (25 families) of them are Monospecific. The species numbers of all genera were also counted. The statistical analyses underlined the species diversity within Qom province flora. The genera with one species (Monospecific) showed the most incredible diversity (234 genra, 60.8%), while the genera with more than five species occupied the lowest (36 genera, 9.4%). Asteraceae is the first-largest family with 54 genera and 117 species, whereas Rosaceae occupied the 10th most prominent family with eight genera and 17 species, respectively (Figure 3). The genera with the highest species richness belong to *Astragalus*, *Salsola*, *Cousinia* and *Euphorbia* (Fighure 4).

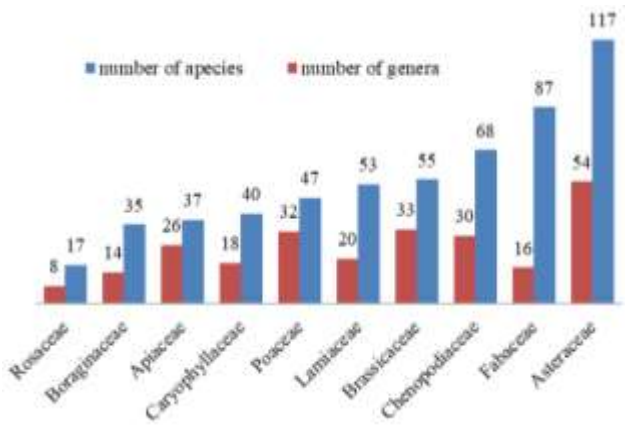

Figure 3. The richest families in number of genera and species in Qom province.

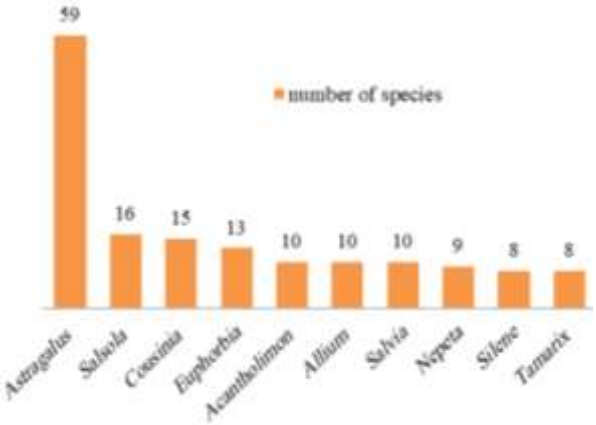

Figure 4. The richest genera in number of species in Qom province.

Out of all identified species (Table 3), 506 (60.2%) of them belong to the Irano-Turanian floristic region, while the remainings are occurred in different floristic regions (Figure 5). Figure 6 also shows various life forms among studied taxa. Most of the species (319, 37.9%) have therophyte life form, followed by hemicryptophyte (295, 35.1%).

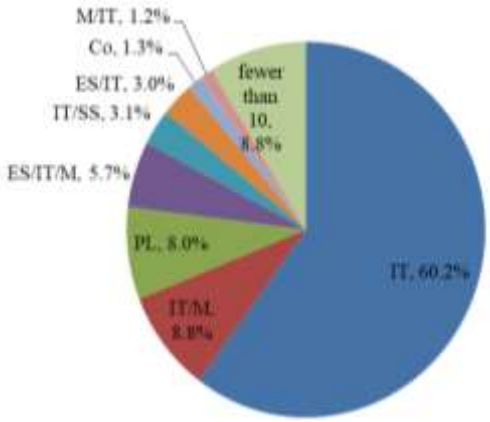

Figure 5. The chorology of the studied species in Qom province. Abbreviations are defined as following: ES: Euro-Siberian, Co: Cosmopolitan, IT: Irano-Turanian, M: Mediterranean, PL: Pluriregion, SS: Saharo-Sindian.

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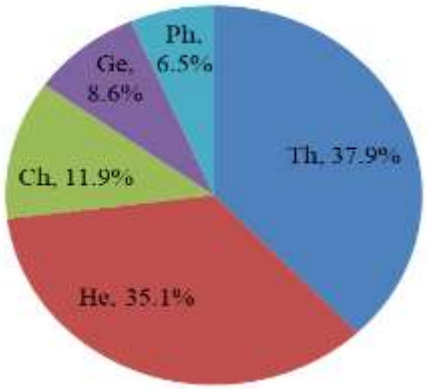

Figure 6. The life form of the studied species in Qom province. Abbreviations are defined as following: Ch: Chamaephyte, Ge: Geophyte, He: Hemicryptophyte, Ph: Phanerophyte, Th: Therophyte.

Vegetation: ***Semi-desert steppes*** like *Artemisia sieberi* communities are prominent type of vegetation in the area, usually found in lower plains (below 1800 meters) and foothills (see Figure 7F). These communities include a variety of annuals, such as *Bassia eriophora* (Schrad.) Asch. (see Figure 8H) and *Hyoscyamus pusillus* L. (see Figure 8G), which form various associations within the studied region. In the mid-mountain *Artemisia* communities, various grasses from mountain steppes, notably *Stipa lessingiana* Trin. & Rupr. mixed and co-dominate alongside dwarf shrubs such as *Pteropyrum olivieri* Jaub. & Spach. (Figure 7E).

In the mountainous area above 1800 meter, there are well-developed ***mountain steppes***. These steppes are mainly thorn-cushion communities (Figure 7C and D) composed of *Artemisia aucheri* Boiss., *Thymus kotschyanus* Boiss. & Hohen., *Acantholimon*, *Acanthophyllum*, and *Astragalus* species. Mountain steppes are rich in diverse and endemic plants, such as *Astragalus*, *Cousinia*, *Allium*, *Tulipa* (Figure 8C), and *Colchicum* species (Figure 8E) in Veshnaveh, Vesf and Kohandan.

In valleys with suitable microclimate, there are ***shrubby and scrub vegetation*** types with different species composition depending on elevation and slope aspect. In the elevational ranges between 1000 to 1600, and mostly on southern slopes, *Amygdalus scoparia* Spach is the main component of these plant communities particularly in Kuh-e-Badamak, Palang Darreh (Figure 7B), and Aliabad Neyzar, along with *Amygdalus lycioides* Spach, *Acer monspessulanum* L. (Figure 8D), and *Tamarix* species. Along temporary rivers, especially at elevations above 1800 m, there are narrow strips of mountain riparian communities composed of *Salix alba* L. (Figure 7A), *Fraxinus angustifolia* Vahl., *Berberis integerrima* Bunge, *Pistacia atlantica* Desf. (Figure 8B), *Cotoneaster nummularius* Fisch. & C.A.Mey., and *Crataegus ambigua* C.A.Mey. ex A.K.Becker.

Cliff vegetation on rocky outcrop particularly in Dobaradaran mount near the city of Qom provide suitable and inaccessible habitats for many species. Several species are characteristic of this vegetation type, such as *Rosularia sempervivum* (M.Bieb.) A.Berger (Figure 7G), *Ficus carica* L., *Pistacia khinjuk* Stocks, and *Cheilanthes acrostica* (Balbis) Tod. (Figure 8F).

The extended hill areas of the Kuh-e-Dobaradaran, Kamrkuh (Figure 7H), and Qiz-Qaleh in Qom Province are covered by ***marl and gypsum***. Floral composition of these hills is much dissimilar from adjacent regions and they have poor vegetation. The most prominent representative species of the studied area include *Cleome coluteoides* Boiss. (Figure 8I), *Asparagus persicus* Baker, *Zygophyllum fabago* L., *Halothamnus auriculus* (Moq.) Botsch., *Anabasis setifera* Moq., and *Allium sabulosum* Steven ex Bunge.

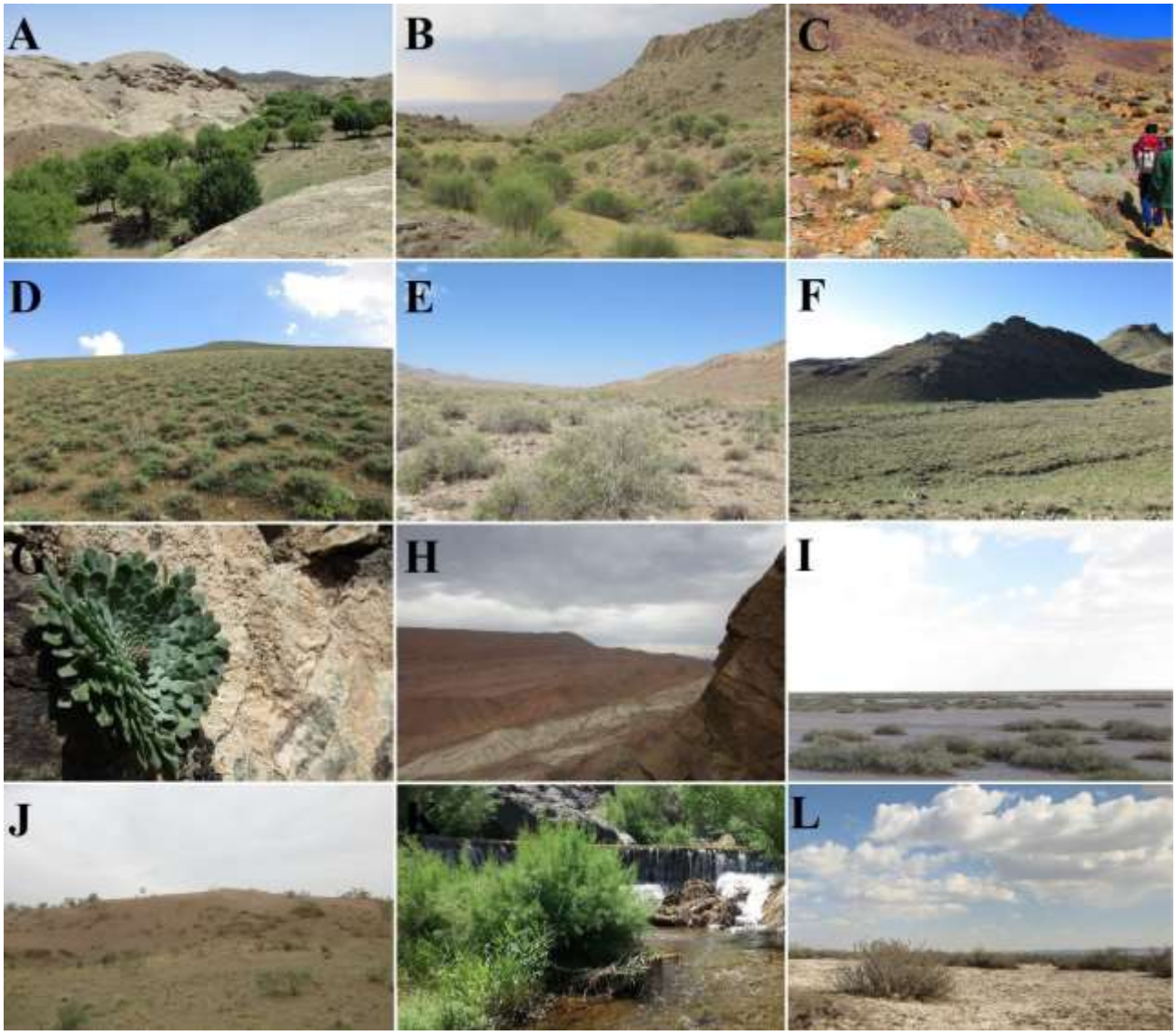

Figure 7. A) *Salix alba* communities in Darreh-Soleyman, **B)** *Amygdalus scoparia* communities in PalangDarreh, **C)** thorn-cushion communities in Sakht Hesar mount, **D)** mountain steppe in Vesf, **E)** *Pteropyrum olivieri* communities in Salafchegan, **F)** semi desert *Artemisia* steppe in PalangDarreh (plain zone), **G)** *Rosularia sempervivum* (M.Bieb.) A.Berger on cliff, **H)** marl and gypsum formations in Kamarkuh, **I)** Halophytic vegetation near Houz-e-Soltan lake, **J)** sand dunes near Hossein Abad Mishmast, **K)** Bidghan river in Veshnaveh and **L)** *Tamarix* vegetation in the margins of Hoz-e-Soltan salt lake.

Diverse ***halophytic communities*** cover saline soils in vast areas of the Masileh plain between Qom and Tehran, which includes Houz-e-Soltan Lake, Namak Lake, and Morreh wetland (Figure 1B). Along the margin of Morreh wetland, there are *Phragmites australis* (halophytic ecotype) and C4-dominated annual halophytic, shrubby halophytic, and *Haloxylon ammodendron* communities. The shrubby halophytic communities consist mainly of *Tamarix passerinoides* Delile, *Halocnemum strobilaceum* (Pall.) M.Bib. and *Seidlitzia rosmarinu*Bunge ex Boiss. Around Houz-e-Soltan and Namk lake (Figure 7I and L).

The main distinguishing trait of the eastern and northern of Qom, south of Namk lake, is the ***Sand-dune (psammophyte) vegetation*** types. The dominant representative species in these communities is *Haloxylon ammodendron*. These communities form on fixed sands or are cultivated in some areas, particularly around Hosein Abad Mishmast (Figure 7J). Other woody species found in these areas include *Tamarix* and *Calligonum* species, as well as annual species such as *Cornulaca aucheri* Moq..

In springs, streams, and rivers, there are various ***aquatic and hygrophilous vegetation*** types. These communities are primarily comprised of several main species that thrive along freshwater streams. These include *Phragmites australis* (Cav.) Trin. ex Steud., *Typha domingensis* Pers., *Ranunculus aquatilis* L., *Nasturtium officinale* R.Br., and *Veronica anagallis-aquatica* L. species, which grow directly in the water. *Mentha longifolia* (L.) L., as well as *Salix* and *Tamarix* species, are found along the margins of streams in Bidghan and Ghahan rivers (Figure 7K). well-developed communities of *Tamarix* are found along brackish rivers such as Qomrood, Qare Chay, Jajrood and Shoor permanent rivers.

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Construction, farmlands, overgrazing, fire and over-exploitation, have significantly impacted the natural vegetation in the studied area particularly over recent decades. Consequently, numerous invasive, weedy, and ruderal species have proliferated in ***disturbed vegetation types***, urbanized areas and grazed lands, roadsides, and cultivated lands. In over- grazed land, natural vegetation has been replaced by *Rosa persica* (Figure 8A), *Gundelia tournefortii*, and *Euphorbia* species communities in the mountainous area and *Peganum harmala* and *Alhagi pseudalhagi* communities in the plain areas. *Salsola kali* and *Artemisia scoparia* communities are found along mountainous roadsides, while *Alhagi pseudalhagi* and *Salsola crassa* are found along plain roadsides. *Alhagi pseudalhagi* and *Prosopis farcta* communities occur in abandoned farmland.

Figure 8. A) *Rosa persica* Michx. ex Juss., **B)** *Pistacia atlantica* Desf., **C)** *Tulipa biebersteiniana* Schult. & Schult.f., **D)** *Acer monspessulanum* L., **E)** *Colchicum persicum* Baker, **F)** *Cheilanthes acrostica* (Balbis) Tod., **G)** *Hyoscyamus pusillus* L., **H)** *Bassia eriophora* (Schrad.) Asch. and **I)** *Cleome coluteoides* Boiss.

As shown in Figure 9, according to ≥3000 records (including collected and observed specimens, as well as species recorded in Flora Iranica (1963-2015) and Flora of Iran (1987-2023), from Qom province) related to the studied plant taxa and species richness analysis, Veshnaveh is found to be the richest area, while Paleng Darreh and Khondan are standing in the next ranks.

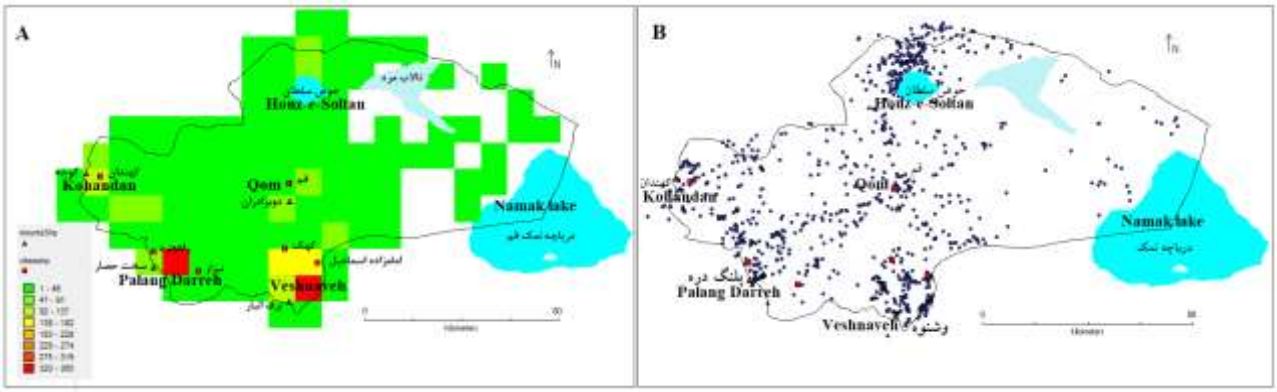

Figure 9. A) Map of species richness in 0.1-degree grid cells in Qom province and **B)** Map of species records collected in this study

Discussion and Conclusion

This study argues the floristic composition of Qom province, which is important for obtaining comprehensive information regarding the studied region. Based on available literature such as Flora of Iran (Assadi et al., 1987-2023) and Flora Iranica (Rechinger, 1963-2015) and previous studies (medicinal plants, cover types, seed bank, pasture plants, study of salinity, etc.), 109 species have been reported for the first time from Qom province (* on numbers in Table 3).

Asteraceae is selected to be the most diverse family in Iran (Ghahremaninejad & Falatoury 2016), and the current study also confirmed this idea. In the case of deserts and salty lands, Chenopodiaceae is considered to be the richest family.

According to the Myers et al. (2000) statement, endemic species showed a greater vulnerability than the remaining taxa. Sixty-three species in studied region (Table 3) are found to be the endemics of Iran. Species richness is one of the most important criteria for regional diversity and it has been used for numerous ecological models and environmental conservation strategies (Ejtehadi et al., 2013). The highest level of conservation in Qom province is noticed in Palang Darreh protected area, but Veshnaveh is indicated the higher level of species richness. It is suggested to improve the protection level of the prohibited hunting in Veshnaveh region.

Irano-Turanian floristic region is characterized by high rate of speciation, and taxa such as *Astragalus* and *Cousinia* are reported to be the largest genera in this region (Takhtajan, 1986). The present research is thoroughly following this idea, and both genera mentioned above are listed therein.

Climate (temperature and precipitation) influences the life form types of the floristic regions (Körner, 1998; Norouzi et al., 2019). As a result, in this study, therophytes (37.9%) and hemicryptophytes (35.1%) are over-presented in Qom province, while geophyte (8.6%) and phanerophyte (6.5%) life forms are under-represented. Based on Klimes (2003) and Di Biase et al. (2021) statements and our results, annual plants (Therophytes) with high adaptation to intolerable conditions are limited to warmer and lower elevations, while hemicryptophytes prefer higher elevations (Table 2). Biological spectra are dissimilar in plant vegetations of the plains, deserts and the mountainous regions. Therophytes are the most common life-form in plain and desert areas, while hemicryptophytes are almost dominant in the mountainous regions (Table 2).

Environmental conditions directly effect on the species richness of the families occurred within plain and mountainous regions of Qom province (Table 2). The largest family in mountainus regions (mountainus areas of Qom, Kobar and Ghamsar) is Asteraceae, while the largest family in plain and desert region (plain areas of Qom, Garmsar and Aran va Bidgol) is belonging to Chenopodiaceae. In terms of the number of species, Chenopodiaceae is the 10th family in mountainous regions of this province.

Table 2. Comparison of elevational range, life form spectra, chorology, the families with the highest species richness in Qom province

Studies	Elevational range (m)	Biological spectrum (per %)					Irano Turanian elements (Per %)	Richest families (Species numbre)
		Hemicryptophytes	Therophytes	Chamaephytes	Geophytes	Phanerophytes		
Mountainus areas of Qom Province	1300-3200	42.2	28.6	13.9	10.4	5	62.3	Asteraceae (74), Fabaceae (47), Lamiaceae (43) and Apiaceae (29)
Kobar (Tavakkoli and Mozaffarian 2005)	1050-3070	41.9	29.6	12.9	11	4.6	84.7	Asteraceae (79), Fabaceae (42), Brassicaceae (38) and Lamiaceae (35)
Ghamsar (Batooli 2019)	1300-3320	32.2	31.9	7.2	9.7	11.9	66.1	Asteraceae (76), Lamiaceae (50), Poaceae (50) and Fabaceae (47)
Plain and dessert areas of Qom province	750-1300	25	45.4	13.2	4.3	12.1	53.5	Chenopodiaceae (54), Asteraceae (45), Fabaceae (35) and Poaceae (25)
Garmsar (Iranbakhsh et al. 2008)	800-1600	10.8	50.3	18.7	10.5	9.9	55.9	Chenopodiaceae (56), Poaceae (52), Asteraceae (45) and Boraginaceae (24)
Aran & Bidgol (Batooli 2018)	765-1138	19.3	44	11.2	8.8	17.3	59	Chenopodiaceae (60), Asteraceae (37), Poaceae (33) and Brassicaceae (30)

The nature of Qom province is under threat from various factors. These include fires caused by people, road construction that leads to the fragmentation of habitats and natural landscapes, polluting industries that release dangerous waste and contribute to air and land pollution, stone extraction mines, over-harvesting of medicinal plants, and overgrazing. Additionally, the creation of six large dams (15 Khordad, Golpayegan, Ghadir, AmirKabir, Latyan, and Mamloo) on the permanent rivers of Qom province, hinder the flow of water to Masileh plain and the Salt Lake, resulting in vegetation loss and desertification. These factors suggest significant threats to the nature of the province. This research is a continuation of investigations on the flora of Qom province. A comprehensive field study was devoted to an overview of the species richness along with an examination of the other floristic characteristics of the area. We critically suggest a detailed floristic study in Iran to understand the precise floristic composition (Ghahremaninejad & Falatoury, 2016).

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Table 3. List of identified species in Qom Province**.** Abbreviations are defined as following: ES: Euro-Siberian, Co: Cosmopolitan, Cu:Cultivated, Ea: Eritreo-Arabian, IT: Irano-Turanian, M: Mediterranean, PL: Pluriregion, SS: Saharo-Sindian, SJ: Sino-Japanese, SU: Sudanian (White & Léonard 1991) (Zohary et al. 1980-1994); Chorotypes marked by an asterisk "*" are Endemic of Iran, numbers marked by an asterisk "*" are new records from Qom province that not reported in botanical sources and other literature, Species marked by an asterisk "*" reported in Flora of Iran (1987-2023) and Flora Iranica (1963-2015) from Qom province.; Ch: Chamaephyte, Ge: Geophyte, He: Hemicryptophyte, Ph: Phanerophyte, Th: Therophyte.

	Families & species	Chorotype	Life form	Elevational range (meters)	Habitat
	Angiospermae				
	Eudicots				
	Amaranthaceae				
1	*Amaranthus albus* L.	PL	Th	1057	Weed in farmland
2	*Amaranthus blitoides* S.Watson	PL	Th	1420	Disturbed soil
3	*Amaranthus blitum* L.*	PL	Th	1080	Wet ground near dam lake
4	*Amaranthus cruentus* L.	PL	Th	1254	Weed in farmland
5	*Amaranthus graecizans* L. *	PL	Th	2060	Weed in farmland , on the seasonal waterway
6	*Amaranthus retroflexus* L.	PL	Th	925-1680	Weed in farmland
7*	*Amaranthus viridis* L.	PL	Th	929-1504	Weed in farmland
	Anacardiaceae				
8	*Pistacia atlantica* Desf.	IT/M	Ph	1170-2000	Montane scrubs
9*	*Pistacia khinjuk* Stocks	IT	Ph	1088-2002	On N slope grown on rocky place
10	*Rhus coriaria* L.	IT/M	Ph	1670-2100	Margin of streams in gardens
	Apiaceae				
11	*Anethum graveolens* L.	PL	Th	1389-2479	Weed in garden
12	*Aphanopleura breviseta* (Boiss.) Heywood & Jury *	IT	Th	850-1000	*Artemisia* steppe
13*	*Apium nodiflorum* (L.) Lag.	PL	He	1504-1967	Margin of streams in gardens
14	*Astrodaucus orientalis* (L.) Drude	IT	Ge	1667-2220	Margin of streams in gardens
15*	*Astrodaucus persicus* (Boiss.) Drude	IT	Ge	2320	Margin of streams in gardens
16	*Bunium cylindricum* (Boiss. & Hohen.) Drude	IT	Ge	900-2956	Montane scrubs
17	*Bupleurum falcatum* L.	IT/M	He	2100-2561	Montane scrubs
18*	*Chaerophyllum macrospermum* (Willd. ex Spreng.) Fisch. & C.A.Mey. ex Hohen.	IT	He	1698-2897	Montane scrubs ,in bed of valley
19	*Conium maculatum* L.	ES/M	Th	1834	Weed in gardens
20	*Ducrosia anethifolia* (DC.) Boiss.	IT	He	1667-2200	Montane scrubs
21	*Echinophora platyloba* DC.	IT*	He	1592-2702	Disrturbed soil
22	*Eryngium billardierei* F.Delaroche	IT	He	1596-2715	Montane scrubs
23	*Falcaria vulgaris* Bernh.	ES/IT/M	He	1796-2300	Disturbed and wet places
24	*Ferula karelinii* Bunge *	IT	He	750	*Artemisia* steppe
25*	*Ferula oopoda* (Boiss. & Buhse) Boiss.	IT	He	1201-2047	Montane scrubs, Artemisia steppes
26	*Ferula ovina* (Boiss.) Boiss. *	IT	He	1400-2400	Montane scrubs
27	*Ferula szowitziana* DC. *	IT	He	1269-1389	Montane scrubs, Artemisia steppes
28	*Heracleum persicum* Desf. ex Fisch., C.A.Mey. & Avé-Lall.	IT	He	1900-2700	in wet ground around spring
29*	*Johrenia platycarpa* Boiss.	IT	He	2702	Montane scrubs

30*	*Kalakia marginata* (Boiss.) Alava	IT*	Th	1062	Montane scrubs, Artemisia steppes
31	*Lisaea heterocarpa* Boiss. *	IT	Th	1600	Montane scrubs
32	*Pimpinella affinis* Ledeb.	IT	He	1748-2064	Montane scrubs, in bed of valley
33	*Pimpinella aurea* DC.	IT	He	1900-2716	Montane scrubs, in bed of valley
34	*Prangos acaulis* Bornm.	IT	He	1855-2300	Montane scrubs
35*	*Prangos asperula* Boiss.	IT	He	2500	Montane scrubs, Artemisia steppes
36*	*Prangos cheilanthifolia* Boiss.	IT*	He	1576-2165	Montane scrubs
37	*Prangos ferulacea* (L.) Lindl.	IT/M	He	2020-3208	Montane scrubs
38	*Prangos uloptera* DC.	IT	He	967-2180	Montane scrubs
39	*Pycnocycla spinosa* Decne. *	IT	He	810-1800	Montane scrubs, Artemisia steppes
40	*Scandix aucheri* Boiss.	IT	Th	2597	Montane scrubs
41*	*Scandix iberica* M.Bieb.	IT/M	Th	1570	Montane scrubs
42	*Scandix stellata* Banks & Sol.	IT	Th	1032-2200	Montane scrubs, on N slope
43*	*Seseli olivieri* Boiss.	ES*	He	3151	Montane scrubs, on pick of the mount
44	*Smyrnium cordifolium* Boiss.	IT	He	1787-2339	Montane scrubs, in bed of valley
45	*Torilis leptophylla* (L.) Rchb.f.	IT/M	Th	2093-2200	Montane scrubs
46	*Turgenia latifolia* (L.) Hoffm. *	M/IT/ES	Th	2200	Montane scrubs
47	*Zosima absinthifolia* Link	IT	He	950-2230	Montane scrubs, on S slope
	Asclepiadaceae				
48	*Cynanchum acutum* L.	IT/M	He	981	On disturbed soil
	Asteraceae				
49	*Achillea santolinoides* Lag.	IT	He	1500-2320	In disturbed place, in bed of valley
50	*Achillea setacea* Waldst. & Kit. *	ES	He	1563	Montane scrubs
51	*Achillea tenuifolia* Lam.	IT	He	900-2350	Montane scrubs, Artemisia steppes
52*	*Amberboa nana* (Boiss.) Iljin	IT	Th	1206	*Artemisia* steppe, in margin of river
53	*Amberboa turanica* Iljin	IT	Th	900	*Artemisia* steppe
54	*Anthemis austroiranica* "Rech.f., Aellen & Esfand."	IT/M/SS*	Th	1528	Montane scrubs
55	*Anthemis brachystephana* Bornm. & Gauba *	IT*	Th	1259	*Artemisia* steppe
56	*Anthemis gayana* Boiss.	IT	Th	1350-1358	Montane scrubs
57	*Anthemis gilanica* Bornm. & Gauba *	IT*	Th	1140-1250	*Artemisia* steppe
58	*Anthemis hyalina* DC.	IT	Th	1281	*Artemisia* steppe, in seasonal dry river
59	*Anthemis odontostephana* Boiss.	IT	Th	1347-1350	Mont ane scrubs, *Artemisia* steppe
60	*Anthemis pseudocotula* Boiss.	IT/M/SS	Th	1528	Weed in gardens
61	*Arctium lappa* L.	ES/IT	He	1815-2300	In wet ground, in bed of valley
62	*Artemisia aucheri* Boiss.	IT	Ch	1550-2900	*Artemisia* steppe, on N slope
63	*Artemisia deserti* Krasch. *	IT	Ch	1283-1394	*Artemisia* steppe
64	*Artemisia fragrans* Willd.	IT	Ch	1476-2300	Montane scrubs, Artemisia steppes
65	*Artemisia scoparia* Waldst. & Kitam.	ES/IT	Th	1893	On road side
66	*Artemisia sieberi* Besser	IT	Ch	800-2405	Montane scrubs, Artemisia steppes
67*	*Artemisia turcomanica* Gand.	IT	Ch	2158	In margin of streams in gardens
68	*Carduus hamulosus* Ehrh. *	IT	He	1050	
69	*Carduus pycnocephalus* L.	IT	Th	1232-2100	Montane scrubs
70	*Carthamus oxyacantha* M.Bieb.	IT	Th	1358-2020	Weed in gardens
71	*Centaurea aucheri* (DC.) Wagenitz	IT	He	2088-2089	Montane scrubs , on NE slope
72	*Centaurea bruguierana* (DC.) Hand.-Mazz.	IT	Th	968-2075	Disturbed soil
73	*Centaurea gaubae* (Bornm.) Wagenitz	IT	He	1742-1808	Montane scrubs
74	*Centaurea ispahanica* Boiss.	IT*	He	1350-2020	Montane scrubs, Artemisia steppes, on NE slope grown on rocky place
75	*Centaurea virgata* Lam.	IT	He	1874-2687	Montane scrubs
76	*Chardinia orientalis* (L.) Kuntze	IT	Th	1708-2208	Montane scrubs, on SE slope
77	*Chondrilla juncea* L.	IT/M	He	1700-2542	On road side
78	*Cichorium intybus* L.	ES/IT	He	929-2100	Weed in farms & gardens
79	*Cirsium arvense* (L.) Scop.	PL	He	1300-2320	Margin of streams in gardens
80	*Cirsium leucocephalum* (Willd.) Spreng.	IT	He	1600-2554	Weed in gardens
81	*Cirsium sorocephalum* Fisch. & C.A.Mey.	IT	He	1400-2855	Montane scrubs, on E slope
82	*Cousinia aggregata* DC. *	IT*	He	1300	Montane scrubs
83	*Cousinia amplissima* (Boiss.) Boiss. *	IT*	He	2000	Montane scrubs
84	*Cousinia arakensis* Attar & Djavadi *	IT*	He	1900	Montane scrubs
85	*Cousinia assyriaca* Jaub. & Spach	IT	He	1470	Montane scrubs
86	*Cousinia asterocephala* Hausskn. & Bornm.	IT	He	1350	Montane scrubs, Artemisia steppes
87	*Cousinia belangeri* Dc. *	IT*	He	2100	Montane scrubs
88	*Cousinia calocephala* Jaub. & Spach	IT	He	1350-3122	Montane scrubs, on E slope
89	*Cousinia congesta* Bunge	IT	He	1350-1590	Montane scrubs, Artemisia steppes
90	*Cousinia cylindracea* Boiss.	IT*	He	2208	Montane scrubs, on E slope
91	*Cousinia kotschyi* Boiss. *	IT*	He	1850-2000	Montane scrubs
92	*Cousinia leptolepis* (Bornm. & Gauba) Rech.f.	IT	He	3122	Montane scrubs

93	*Cousinia multiloba* DC.	IT	He	1720-3122	Montane scrubs, on pick of the mount
94	*Cousinia nekarmanica* Rech.f.	IT*	He	1955-2020	Montane scrubs
95	*Cousinia onopordioides* Ledeb.	IT	He	1350	Montane scrubs
96*	*Cousinia prolifera* Jaub. & Spach	IT	Th	860-1088	Montane scrubs
97	*Crepis kotschyana* (Boiss.) Boiss.	IT	Th	870-981	Montane scrubs
98	*Crepis pulchra* L. *	ES/IT	Th	2300	Montane scrubs
99	*Crepis sancta* (L.) Bornm.	M/IT/SS	Th	900-2100	Montane scrubs
100	*Crupina crupinastrum* (Moris) Vis.	IT/M	Th	1964	Montane scrubs
101	*Cyanus depressus* (M.Bieb.) Soják	ES/IT	Th	1651-2305	On road side
102	*Echinops acantholepis* Jaub. & Spach	IT	Th	900-1764	Montane scrubs, Artemisia steppes
103	*Echinops cephalotes* DC.	IT	He	870-2000	Montane scrubs, Artemisia steppes, in bed of valley
104	*Echinops leiopolyceras* Bornm. *	IT	He	1530	Montane scrubs, Artemisia steppes
105	*Echinops orientalis* Trautv. *	IT	He	1800-2200	Montane scrubs
106	*Echinops polygamus* Bunge *	IT	He	1280	*Artemisia* steppe
107	*Echinops ritrodes* Bunge	IT	He	2458	Montane scrubs
108	*Echinops robustus* Bunge	IT*	He	1100-1210	*Artemisia* steppe
109*	*Epilasia acrolasia* (Bunge) Lipsch.	IT	Th	887	In *Haloxylon* shrubland
110*	*Erigeron bonariensis* L.	Co	Th	915	Weed in farms & garden
111	*Filago arvensis* L.	ES/IT/M	Th	1907	Montane scrubs, Artemisia steppes
112	*Gundelia tournefortii* L.	IT	He	1432-2320	Montane scrubs, on over grazed land
113	*Gymnarrhena micrantha* Desf.	SS	Th	821-1232	In sandy soil
114	*Helichrysum oligocephalum* DC.	IT	He	1853-3218	Montane scrubs
115	*Heteroderis pusilla* (Boiss.) Boiss.	IT	Th	900	*Artemisia* steppe, in the rocks
116*	*Inula britannica* L.	PL	He	1967	in margin of streams of gardens
117	*Jurinea berardioides* (Boiss.) O.Hoffm.	IT	He	1093	*Artemisia* steppe, on rocks
118	*Jurinea carduiformis* (Jaub. & Spach) Boiss.	IT	He	981-2300	Montane scrubs , *Artemisia* steppe on
119	*Jurinea heterophylla* (Jaub. & Spach) Boiss. *	IT	He	960	*Artemisia* steppe
120	*Jurinea ramosissima* Dc. *	IT	He	860	*Artemisia* steppe
121	*Koelpinia linearis* Pall.	IT/SS	Th	820-1680	*Artemisia* steppe, on S slope
122	*Koelpinia tenuissima* Pavlov & Lipsch. *	IT/SS	Th	850-1550	Montane scrubs , *Artemisia* steppe
123	*Lactuca glauciifolia* Boiss. *	IT	Th	900-1300	*Artemisia* steppe
124	*Lactuca orientalis* (Boiss.) Boiss.	IT	Ch	1130-2702	Montane scrubs
125*	*Lactuca persica* Boiss.	IT	He	1836	Montane scrubs
126	*Lactuca serriola* L.	PL	He	929-2300	Weed in farmland
127	*Lactuca undulata* Ledeb. *	IT	Th	1150-1970	*Artemisia* steppe
128	*Lasiopogon muscoides* (Desf.) DC. *	IT/SS	Th	1200	*Artemisia* steppe
129	*Launaea acanthodes* (Boiss.) Kuntze	IT/SS	Th	965-2000	Montane scrubs , *Artemisia* steppe
130	*Launaea mucronata* (Forssk.) Muschl.	IT/SS	He	900	*Artemisia* steppe
131	*Microcephala lamellata* (Bunge) Pobed. *	IT	Th	1900-2000	Montane scrubs
132	*Oligochaeta minima* (Boiss.) Briq. *	IT	Th	965	*Artemisia* steppe
133	*Onopordum heteracanthum* C.A.Mey.	IT	He	1326-1350	Weed in disused farm field
134	*Phagnalon nitidum* Fresen.	IT	He	1100-1768	on rocky place
135	*Phagnalon rupestre* (L.) DC. *	IT/M	He	1552	Montane scrubs
136	*Picnomon acarna* (L.) Cass.	IT/M	Th	1750-2060	Weed in disturbed habitats
137	*Picris strigosa* M.Bieb. *	IT	He	2000-2400	Montane scrubs
138	*Psephellus leuzeoides* (Jaub. & Spach) Wagenitz	IT	He	1861-2500	Montane scrubs , on N slope
139	*Pterachaenia stewartii* (Hook.f.) R.R.Stewart *	IT	Th	950	*Artemisia* steppe
140	*Pulicaria gnaphalodes* (Vent.) Boiss. *	IT	He	1040-2000	Montane scrubs , *Artemisia* steppe
141	*Rhaponticum repens* (L.) Hidalgo	IT	He	1722-2165	Weed in farmland
142	*Scorzonera lanata* M.Bieb.	IT	Ge	1315	
143	*Scorzonera mucida* Rech.f., Aellen & Esfand.	IT	Ge	1560-3094	Montane scrubs , on N slope
144	*Scorzonera ramosissima* DC.	IT	He	1784-1920	Montane scrubs
145	*Scorzonera tortuosissima* Boiss.	IT/SS	He	985-2020	Montane scrubs
146	*Senecio glaucus* L.	SS/IT	Th	965-2237	Montane scrubs , *Artemisia* steppe
147*	*Senecio leucanthemifolius* Poir.	M	Th	2177	Montane scrubs , in bed of valley
148	*Senecio vulgaris* L.	ES/IT/M	Th	1680-2200	Weed in disturbed habitats
149	*Seriphidium oliverianum* (Besser) K.Bremer & Humphries ex Y.R.Ling	IT	Ch	1642-1800	Montane scrubs
150	*Sonchus asper* (L.) Hill	IT/M	Th	1450	Weed in disturbed habitats
151	*Sonchus oleraceus* (L.) L. *	ES/IT/M	Th	1050-2000	Weed in disturbed habitats
152*	*Sonchus tenerrimus* L.	IT/M	Th	1990	Weed in disturbed habitats
153	*Takhtajaniantha pusilla* (Pall.) Nazarova *	ES/IT	Ge	1000-1050	*Artemisia* steppe
154	*Tanacetum parthenium* (L.) Sch.Bip.	ES/IT	He	1626-2300	Waste places, banks of streams
155	*Tanacetum pinnatum* Boiss. *	IT	He	1350-2300	Montane scrubs

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156	*Tanacetum polycephalum* Sch.Bip.	IT	He	1771-3227	Weed in margin of streams of gardens
157	*Taraxacum syriacum* Boiss.	IT	He	1880-2455	Montane scrubs , on NW slope
158	*Thevenotia persica* DC. *	IT/M	Th	850	*Artemisia* steppe
159	*Tragopogon buphthalmoides* (DC.) Boiss. *	IT/M	He	1720	Montane scrubs
160	*Tragopogon porrifolius* L.	IT/M	He	1780-2100	In cultivated fields
161	*Tripleurospermum parviflorum* (Willd.) Pobed.	IT/M	Th	900	*Artemisia* steppe
162	*Varthemia persica* DC.	IT	Ch	2020-2912	Montane scrubs
163	*Xanthium strumarium* L.	IT/SJ	Th	1020-2060	Weed in garden
164*	*Xeranthemum longepapposum* Fisch. & C.A.Mey.	IT	Th	1362	Montane scrubs , *Artemisia* steppe
165*	*Zoegea purpurea* Fresen.	IT/SS	Th	981-1805	Montane scrubs , *Artemisia* steppe
	Berberidaceae				
166	*Berberis integerrima* Bunge	IT	Ph	1199-2300	Montane scrubs ,on N slope
167	*Bongardia chrysogonum* (L.) Spach	IT/M	Ge	900-1800	
168	*Leontice armeniaca* Boiv.	IT	Ge	2025-2100	Montane scrubs , on SE slope
	Biebersteiniaceae				
169	*Biebersteinia multifida* DC.	IT	Ge	1350-2647	Montane scrubs, on N slope
	Boraginaceae				
170	*Anchusa azurea* Mill.	ES/IT/M	He	1450-2320	Weed in disturbed habitats
171*	*Anchusa strigosa* Banks & Sol.	IT/M	He	1500-1569	On road side
172	*Arnebia decumbens* (Vent.) Coss. & Kralik	IT/M	Th	879-1550	In disturbed habitats
173	*Arnebia linearifolia* A.DC.	IT/SS	Th	750-1350	In wet ground of dam lake
174	*Asperugo procumbens* L.	ES/M/IT	Th	900-2000	Weed in farmland
175	*Heliotropium aucheri* DC.	IT	He	846-965	*Artemisia* steppe
176	*Heliotropium bacciferum* Forssk. *	SS/SU	He	800-900	*Artemisia* steppe
177	*Heliotropium dasycarpum* Ledeb.	M/IT	He	900	*Artemisia* steppe
178	*Heliotropium dissitiflorum* Boiss. *	IT	Th	850-1670	*Artemisia* steppe
179	*Heliotropium europaeum* L.	M/IT	Th	1693-2000	Weed in farms & gardens
180*	*Heliotropium lasiocarpum* Fisch. & C.A.Mey.	IT	Th	1226-1485	In disturbed habitats
181	*Heliotropium mesinanum* Bunge	IT	Th	1890	Montane scrubs
182	*Heliotropium samoliflorum* Bunge	IT	Th	1240	*Artemisia* steppe
183	*Heterocaryum szovitsianum* (Fisch. & C.A.Mey.) A.DC.	IT	Th	1035-1720	In disturbed habitats
184	*Lappula barbata* (M.Bieb.) Gürke	ES/IT/M	Th	1450-2411	Weed in gardens
185	*Lappula microcarpa* (Ledeb.) Gürke	IT	Th	1500-2350	Montane scrubs , on N slope
186	*Lappula sessiliflora* Gürke *	IT	Th	1780	Montane scrubs , *Artemisia* steppe
187	*Lappula sinaica* (A.DC.) Asch. & Schweinf.	IT	Th	1400-2725	Montane scrubs , *Artemisia* steppe, around spring under shade of willows
188	*Lappula spinocarpos* (Forssk.) Asch. ex Kuntze	IT	Th	818-1410	*Artemisia* steppe, saline soils near Salt-marshes
189	*Microparacaryum intermedium* (Fresen.) Hilger & Podl.	IT	Th	1500	Montane scrubs
190	*Moltkia caerulea* Lehm. *	IT	Th	1300	Montane scrubs
191	*Nonea caspica* (Willd.) G.Don	IT	Th	887-2700	*Artemisia* steppe , Montane scrubs, on N slope
192	*Nonea persica* Boiss.	IT	He	1080-3169	Steppe, on S slope
193	*Nonea persica* var. suchtelenioides	IT*	He	1720	Montane scrubs
194	*Nonea turcomanica* Popov	IT	Th	900	*Artemisia* steppe
195	*Onosma elivendica* Wettst. ex Stapf	IT	He	1786-2000	Montane scrubs , on N slope
196	*Onosma kilouyensis* Boiss. & Hausskn. *	IT*	He	2000	Montane scrubs
197	*Onosma microcarpa* DC.	IT	He	1770-2200	Montane scrubs, on E slope
198	*Paracaryum cyclhymenium* (Boiss.) Riedl	IT*	He	985-1720	Montane scrubs , *Artemisia* steppe
199	*Paracaryum persicum* Boiss. *	IT*	He	1200-2000	Montane scrubs
200	*Paracaryum rugulosum* (DC.) Boiss.	IT/SS	He	900-1039	in wet ground of dam lake
201	*Paracaryum strictum* Boiss. *	IT	He	900	*Artemisia* steppe
202*	*Rochelia persica* Bunge ex Boiss.	IT	Th	2208-2926	Montane scrubs, on SE slope
203	*Solenanthus circinatus* Ledeb.	IT	He	1400-2174	Montane scrubs ,on SE slope
204	*Trichodesma incanum* (Bunge) A.DC.	IT	He	1572-2380	On road side
	Brassicaceae				
205	*Aethionema carneum* (Banks & Sol.) B.Fedtsch. *	IT	Th	1250	Montane scrubs , *Artemisia* steppe e
206	*Aethionema spinosum* Bornm.	IT	Ch	1043-2587	Montane scrubs , *Artemisia* steppe e
207	*Aethionema virgatum* (Boiss.) Hedge	IT	Ch	1550-2771	Montane scrubs , on N slope
208	*Alyssum bracteatum* Boiss. & Buhse	IT	He	1000-1900	Montane scrubs , *Artemisia* steppe
209	*Alyssum dasycarpum* Stephan ex Willd. *	IT	Th	1500-2000	Montane scrubs , *Artemisia* steppe
210	*Alyssum linifolium* Stephan ex Willd.	IT	Th	1039-1600	Montane scrubs , *Artemisia* steppe, in wet ground of dam lake

211	*Alyssum stapfii* Vierh.	IT	Th	1257-1706	
212	*Alyssum szovitsianum* Fisch. & C.A.Mey.	IT	Th	825-1429	Montane scrubs , *Artemisia* steppe
213	*Alyssum tortuosum* Willd.	IT	He	1764-2932	Montane scrubs , on N slope
214	*Arabis nova* Vill.	IT/M	Th	1600-2237	Montane scrubs , on E slope
215	*Asperuginoides axillaris* (Boiss. & Hohen.) Rauschert	IT	Th	1890	In damp and shaded place
216	*Brassica deflexa* Boiss.	IT	Th	1500	
217	*Camelina rumelica* Velen.	ES/IT/M	Th	2027	Montane scrubs , on NE slope
218	*Chorispora tenella* (Pall.) DC.	IT	Th	1039-2300	Weed in disturbed habitats
219	*Clypeola dichotoma* Boiss. *	IT	Th	1550-1900	Montane scrubs
220	*Clypeola jonthlaspi* L.	IT/M	Th	1450-2091	Montane scrubs , *Artemisia* steppe
221	*Descurainia sophia* (L.) Webb ex Prantl	PL	Th	1212-2000	Weed in disturbed habitats
222	*Diplotaxis harra* (Forssk.) Boiss.	SS	Th	896-1284	*Artemisia* steppe, on S slope
223	*Draba nuda* (Bél.) Al-Shehbaz & M.Koch	IT	Th	2098	Montane scrubs
224	*Eruca vesicaria* (L.) Cav.	IT/M	Th	900-1900	Weed in farmlands
225	*Euclidium syriacum* (L.) R.Br. *	IT	Th	1700-2220	Weed in disturbed habitats
226	*Fibigia umbellata* (Boiss.) Boiss.	IT	Ch	1700-2028	Montane scrubs , on N slope
227	*Goldbachia laevigata* (M.Bieb.) DC.	IT	Th	877-2200	Weed in disturbed habitats
228	*Graellsia saxifragifolia* (DC.) Boiss.	IT	He	1800-2494	Montane scrubs , on rocky place
229	*Hesperis persica* Boiss.	IT	He	1800-2921	Montane scrubs
230*	*Hornungia procumbens* (L.) Hayek	PL	Th	1465	Montane scrubs
231	*Isatis armena* L.	IT	Th	1700	Montane scrubs
232	*Isatis minima* Bunge	IT	Th	877-1447	*Artemisia* steppe, on E slope
233	*Isatis stylophora* (Jaub. & Spach) Hadac & Chrtek	IT	Th		Montane scrubs
234	*Isatis zarrei* Al-Shehbaz, Moazzeni & Mumm.	IT*	Th	1452-2900	Montane scrubs, on E slope
235	*Lepidium draba* L.	ES/IT	He	1183-2000	Weed in farmland
236	*Lepidium latifolium* L.	M/IT	He	929-2200	Weed in farmland
237	*Lepidium persicum* Boiss.	IT	He	1043-2943	Montane scrubs
238	*Lepidium vesicarium* L.	IT	He	1039-1750	in wet ground of dam lake
239	*Leptaleum filifolium* (Willd.) DC. *	IT	Th	2450	Montane scrubs, Artemisia steppes
240*	*Matthiola chenopodiifolia* Fisch. & C.A.Mey.	IT	Th	877-1742	Montane scrubs, Artemisia steppes
241	*Matthiola ovatifolia* Boiss.	IT	He	1990	Montane scrubs, Artemisia steppes
242	*Nasturtium officinale* R.Br.	ES/IT/M	He	1805-2200	In spring pool
243	*Neotorularia torulosa* (Desf.) Hedge & J.Léonard	PL	Th	750-2100	Montane scrubs, Artemisia steppes
244	*Neslia paniculata* (L.) Desv.	M	Th	1433-2972	Montane scrubs, Artemisia steppes , on S slope
245	*Olimarabidopsis pumila* (Celak.) Al-Shehbaz, O'Kane & R.A.Price	IT	Th	1380-2091	Montane scrubs
246	*Plagioloba clavata* (Boiss.) A.R. Khosravi & A. Eslami-Farouji *	IT	Th		
247	*Pseudocamelina glaucophylla* N.Busch *	IT	He	2974	Montane scrubs
248	*Raphanus raphanistrum* L.	M/ES	Th	1050-2497	Weed in gardens
249	*Schimpera arabica* Hochst. & Steud.	SS	Th	900	*Artemisia* steppe
250	*Sisymbrium irio* L. *	IT/M	Th	900-2000	Weed in disturbed habitats
251	*Sisymbrium loeselii* L.	ES/IT	Th	1200-2636	Weed in gardens
252*	*Sisymbrium septulatum* DC.	IT	Th	2072	Weed in disturbed habitats
253	*Sterigmostemum acanthocarpum* Kuntze	IT	Th	900-1250	*Artemisia* steppe
254	*Sterigmostemum incanum* M.Bieb.	IT	Th	1900-2200	Montane scrubs
255*	*Sterigmostemum longistylum* (Boiss.) Kuntze	IT	Th	1416	
256	*Sterigmostemum sulphureum* Bornm. *	IT	Th	1200-2200	In disturbed habitat
257	*Strigosella africana* (L.) Botsch.	IT/SS	Th	900-1195	In disturbed habitat
258	*Strigosella strigosa* (Boiss.) Botsch. *	IT	Th	900-1195	*Artemisia* steppe
259	*Strigosella taraxacifolia* (DC.) Botsch.	IT	Th	900	*Artemisia* steppe
	Caesalpiniaceae				
260	*Cercis griffithii* Boiss.	IT/ES	Ph	1444	Cultivated
	Campanulaceae				
261	*Campanula rapunculoides* L. *	ES	He	2190	In streams of garden
262*	*Campanula sclerotricha* Boiss.	IT	He	1975-2320	Montane scrubs
	Cannabaceae				
263	*Celtis australis* L.	ES/IT/M	Ph	1200-2096	
	Capparaceae				
264	*Capparis spinosa* L.	PL	He	850-2100	In disturbed habitat
	Caprifoliaceae				

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265	*Lonicera nummulariifolia* Jaub. & Spach	IT	Ph	1932	Montane scrubs , On N slope
	Caryophyllaceae				
266	*Acanthophyllum laxiusculum* Schiman-Czeika	IT	Ch	1327-2411	Montane scrubs , on N slope
267	*Acanthophyllum mucronatum* C.A.Mey.	IT	Ch	1361-2821	Montane scrubs , on S slope, grown on rocky place
268	*Acanthophyllum sordidum* Bunge ex Boiss.	IT	Ch	1250-3122	Montane scrubs ,Grown on NE slope
269	*Acanthophyllum squarrosum* Boiss. *	IT	Ch	1500-1900	Montane scrubs
270	*Arenaria bungei* Barkoudah *	PL	Th	950	Steppe
271*	*Arenaria lessertiana* Fenzl	IT	Ch	3094	Montane scrubs
272	*Bufonia macrocarpa* Ser. *	IT	Ch	1800-1900	
273	*Cerastium dichotomum* L.	IT/M	Th	1444-2935	Montane scrubs
274*	*Cerastium glomeratum* Thuill.	ES/IT/M	Th	925	weed in garden
275	*Dianthus crinitus* Sm.	IT	Ch	1394-2838	Montane scrubs , on E slope
276	*Dianthus crossopetalus* (Fenzl ex Boiss.) Grossh.	IT	Ch	1417-1703	Montane scrubs
277*	*Dianthus orientalis* Adams	IT	Ch	959-2900	Montane scrubs, Artemisia steppes
278	*Eremogone insignis* (Litv.) Ikonn.	IT	Ch	2128-3003	Montane scrubs
279*	*Eremogone tetrasticha* (Boiss.) Ikonn.	IT	Ch	2128	Montane scrubs
280	*Eremogone zargariana* (Parsa) Holub	IT	Ch	1248	Montane scrubs
281	*Gastrocalyx ampullatus* (Boiss.) Schischk.	IT	He	1650	Montane scrubs
282*	*Gypsophila diffusa* Fisch. & C.A.Mey. ex Rupr.	IT	He	2135-2320	Montane scrubs
283	*Gypsophila pilosa* Huds.	IT	Th	1347-2070	In disturbed habitats
284	*Herniaria hirsuta* L.	PL	Th	818-1394	In wet ground of dam lake
285	*Holosteum umbellatum* L.	IT/M	Th	1600-2711	on E slope
286	*Lepyrodiclis stellarioides* Fisch. & C.A.Mey.	IT	Th	2000-2190	Montane scrubs ,around spring under shade of willows
287	*Mesostemma kotschyana* (Fenzl ex Boiss.) Vved.	IT	He	1890-2351	Montane scrubs
288*	*Minuartia hamata* (Hausskn.) Mattf.	IT/M	Th	1315	Montane scrubs, Artemisia steppes
289	*Minuartia meyeri* (Boiss.) Bornm.	IT/M	Th	1269-1996	Montane scrubs, Artemisia steppes
290	*Minuartia picta* (Sibth. & Sm.) Bornm. *	IT	Th	1470	Montane scrubs
291	*Paronychia kurdica* Boiss.	PL	He	967-1796	Montane scrubs, Artemisia steppes
292	*Silene arabica* Boiss. *	IT	Th	800	
293	*Silene brahuica* Boiss.	IT	He	2179-2900	Montane scrubs ,on NE slope
294	*Silene chaetodonta* Boiss.	IT/M	Th	1347-2000	
295*	*Silene chlorifolia* Sm.	IT	He	1803	Montane scrubs ,on N slope
296*	*Silene coniflora* Nees ex Otth	IT	Th	1254	*Artemisia* steppe
297	*Silene conoidea* L.	IT/M	Th	1044-2220	Weed in disturbed habitats
298	*Silene gynodioica* Ghaz.	IT	He	1786-2800	Montane scrubs , on NE slope
299	*Silene latifolia* Poir.	ES/IT/M	He	2000-2658	Montane scrubs , in stream of spring
300*	*Spergularia bocconei* (Scheele) Asch. & Graebn.	PL	Th	825	Saline waste places
301*	*Spergularia diandra* (Guss.) Heldr.	M/IT/SS	Th	877	Saline waste places
302	*Spergularia marina* (L.) Besser *	PL	Th	1170	Saline waste places
303	*Spergularia media* (L.) C.Presl *	PL	Th	1700	Saline waste places
304	*Stellaria media* (L.) Vill.	PL	Th	1900-2126	Wet ground around spring
305	*Vaccaria hispanica* (Mill.) Rauschert *	M	Th	1560-2200	In disturbed habitats
	Chenopodiaceae				
306*	*Agriophyllum latifolium* Fisch. & C.A.Mey.	IT	Th	896	On sand dune
307*	*Agriophyllum minus* Fisch. & C.A.Mey.	PL	Th	1039	wet ground of dam lake
308	*Anabasis haussknechtii* Bunge ex Boiss. *	IT/SS	He	878	Sandy-clay soil, semidesert, salt desert
309	*Anabasis setifera* Moq.	IT/SS	He	780-1105	Salt-marshes
310	*Anthochlamys multinervis* Rech.f.	IT*	Th	780-1800	Gypsum soil
311	*Anthochlamys polygaloides* (Fisch. & C.A.Mey.) Moq.	ES/IT	Th	900-1226	Salt steppe
312	*Atriplex canescens* (Pursh) Nutt. *	W. & SW. Am.	Ph	820-1050	Sand and clay soils
313	*Atriplex dimorphostegia* Kar. & Kir.	IT/SS	Th	915-1000	Weed in farmland
314	*Atriplex griffithii* Moq. *	IT	Ph	950-1650	Gypsum soil
315	*Atriplex halimus* L. *	PL	Ph	1050	Cultivated
316	*Atriplex leucoclada* Boiss.	IT/SS	He	950-1550	Weed in disused farmland
317	*Atriplex tatarica* L.	ES/IT/M	Th	861-980	Disturbed soil
318	*Bassia eriophora* (Schrad.) Asch.	SS/SU	Th	887	Margin of sand dune
319	*Bassia prostrata* (L.) Beck *	PL	Ch	1000-2310	Gypsum soil
320	*Bassia scoparia* (L.) A.J.Scott	PL	Th	1360-1550	Cultivated , roadside
321	*Bassia stellaris* (Moq.) Bornm. *	IT	Th	1130-2100	*Artemisia* steppe
322	*Beta vulgaris* L.	PL	Th	2497	Weed in farmland

323	*Bienertia cycloptera* Bunge *	PL	Th	800	In Salt-marshes with moist soil
324	*Ceratocarpus arenarius* L.	PL	Th	900-1210	*Artemisia* steppe
325	*Chenopodium album* L.	PL	Th	929-1955	Weed in farmland
326*	*Chenopodium novopokrovskyanum* (Aellen) Uotila	IT	Th	925	Weed in gardens
327	*Cornulaca aucheri* Moq.	IT/SS	Th	800-1060	Sandy ground
328	*Dysphania botrys* (L.) Mosyakin & Clemants *	PL	Th	978	roadsides, fields, gardens
329	*Gamanthus gamocarpus* (Moq.) Bunge *	IT	Th	780-950	Salty places
330	*Girgensohnia oppositiflora* (Pall.) Fenzl	IT	Th	780-2044	on road side
331	*Halanthium purpureum* Bunge	IT	Th	896-1100	In moderately salty lands
332	*Halanthium rarifolium* K.Koch	IT	Th	830-1060	Salt-marshes
333*	*Halimocnemis azarbaijanensis* Assadi	IT*	Th	920	
334	*Halimocnemis molissima* Bunge *	IT	Th	900-950	In relatively salty lands
335	*Halocharis sulphurea* (Moq.) Moq. *	IT/SS	Th	874	Gypsum and Salt-marsheses
336	*Halocnemum strobilaceum* (Pall.) M.Bieb.	PL	Ch	750-900	saline and humid soil around Salt-marshes
337	*Halopeplis pygmaea* (Pall.) Bunge ex Ung.-Sternb.	IT	Th	800-896	saline and humid soil around Salt-marshes
338	*Halostachys belangeriana* (Moq.) Botsch. *	IT	Ph	800-900	Salt-flats
339	*Halothamnus auriculus* (Moq.) Botsch.	IT	Ch	820-1079	Salt-marshes
340	*Halothamnus cinerascens* (Moq.) Kothe-Heinr. *	IT	Ch	860-1100	Salt-marshes
341	*Halothamnus glaucus* (M.Bieb.) Botsch.	IT	Ch	900-1033	In moderately salty lands
342	*Halothamnus subaphyllus* (C.A.Mey.) Botsch. *	IT	Ch	780	*Artemisia* steppe
343	*Halotis pilifera* Botsch.	IT	Th	780-994	In disturbed soil
344	*Haloxylon ammodendron* (C.A.Mey.) Bunge ex Fenzl	IT	Ph	802-887	Sandy ground
345	*Kalidium caspicum* (L.) Ung.-Sternb. *	IT	Ph	896	Saline soil
346	*Noaea mucronata* (Forssk.) Asch. & Schweinf.	IT	Ch	900-1855	Montane scrubs, *Artemisia* steppe
347	*Panderia pilosa* Fisch. & C.A.Mey.	IT	Th	1700	In disturbed habitat
348	*Salicornia europaea* L. *	PL	Th	750-800	Wet salty soils
349	*Salsola arbuscula* Pall.	IT	Ch	1519	In moderately salty lands
350	*Salsola aucheri* (Moq.) Bunge ex Iljin	IT	Ch	800	Gypsum soils
351*	*Salsola cana* K.Koch	IT	Ch	920	Gypsum soils
352	*Salsola crassa* M.Bieb.	IT	Th	780-1000	Salt-marshes
353	*Salsola imbricata* Forssk.	IT/SS	Ch	915-959	Salt-marshes
354	*Salsola incanescens* C.A.Mey.	PL	Th	800-1033	Weed in farmland
355	*Salsola jordanicola* Eig	IT/SS	Th	780-1050	Salt-marshes
356	*Salsola kali* L.	PL	Th	1040-2497	road side
357	*Salsola kerneri* (Woł.) Botsch. *	IT/ES	Ch	1500	Sandy soil, steppe
358	*Salsola laricina* Pall. *	SS/ IT	Ch	950-1000	
359	*Salsola nitraria* Pall. *	PL	Th	800-1070	Moderately saline soils
360	*Salsola orientalis* S.G.Gmel. *	IT	Ch	900-1100	Slightly saline soils of slopes and plains
361	*Salsola sclerantha* C.A.Mey. *	IT	Th	950	On sand dunes
362	*Salsola soda* L. *	PL	Th	850	Salt-marshes
363	*Salsola tomentosa* (Moq.) Spach *	IT	Ch	800-1000	Moderately saline soils
364	*Salsola turcomanica* Litv. *	IT	Th	780-9800	Salt-marshes
365	*Seidlitzia florida* (M.Bieb.) Boiss. *	IT	Th	900-1050	Salt steppes
366	*Seidlitzia rosmarinus* Bunge ex Boiss.	IT/SS	Ph	780-924	Sandy or stony desert or semi-desert
367*	*Spinacia turkestanica* Iljin	IT	Th	1576	Roadsides, fields and gardens
368*	*Suaeda acuminata* (C.A.Mey.) Moq.	IT	Th	818-950	Salt marshes and the bed of salty rivers
369	*Suaeda aegyptiaca* (Hasselq.) Zohary	IT/SS	Th	805-915	Salt-marshes
370	*Suaeda arcuata* Bunge *	IT	Th	800-1100	Salt-marshes
371	*Suaeda heterophylla* Bunge ex Boiss. *	PL	Th	895	Salt-marshes
372	*Suaeda microphylla* Pall. *	IT	Ph	958	
373	*Suaeda vermiculata* Forssk. ex J.F.Gmel.	IT/SS	Ph	780-830	Slightly saline soil
	Cleomaceae				
374	*Cleome coluteoides* Boiss.	IT	He	1001-1748	Foothills and low-mountain
375	*Cleome iberica* DC. *	IT/M	Th	1130-1300	In Disturbed habitats
	Convolvulaceae				
376	*Convolvulus arvensis* L.	PL	He	1550-1809	Weed in fields and gardens
377	*Convolvulus commutatus* Boiss.	IT	He	1500	Montane scrubs
378	*Convolvulus eremophilus* Boiss. & Buhse *	IT	He	965-1050	*Artemisia* steppes
379	*Convolvulus erinaceus* Ledeb. *	IT	He	900	*Artemisia* steppes
380	*Convolvulus pilosellifolius* Desr.	IT	He	929-1390	In farmland
381	*Cressa cretica* L.	PL	He	861-929	Salt marshes

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	Crassulaceae				
382	*Pseudosedum multicaule* (Boiss. & Buhse) Boriss.	IT	He	2100-2351	Montane scrubs , on rocky place
383	*Rosularia sempervivum* (M.Bieb.) A.Berger	IT	He	1036-2123	Montane scrubs, rocky place
384	*Sedum hispanicum* L.	ES/M/IT	Th	1808	Montane scrubs
385	*Umbilicus intermedius* Boiss.	IT/M	Ge	1032	Under shade of rock, on N slope
	Cucurbitaceae				
386	*Bryonia aspera* Steven ex Ledeb.	IT	He	1955-2400	Montane scrubs
	Cuscutaceae				
387	*Cuscuta babylonica* Aucher ex Choisy	IT	Th	1150	Parasite on *Alhagi*
388	*Cuscuta campestris* Yunck.	Co	Th	929-1955	Parasite on *Alhagi*
	Dipsacaceae				
389	*Lomelosia olivieri* (Coult.) Greuter & Burdet	IT	He	1517-1539	Montane scrubs
390	*Pterocephalus canus* Coult. ex DC.	IT	He	1710-2926	Montane scrubs
391	*Scabiosa deserticola* Rech.f. *	IT	Th	1450	
392*	*Scabiosa persica* Boiss.	IT	Th	960-1434	Montane scrubs, on S slope
	Euphorbiaceae				
393	*Chrozophora sabulosa* Kar. & Kir. *	SS	Th	900	On road side
394	*Chrozophora tinctoria* (L.) A.Juss. *	IT/M	Th	1032-1970	On road side
395	*Euphorbia boissieriana* (Woronow) Prokh.	IT	He	1450-2190	Montane scrubs
396	*Euphorbia buhsei* Boiss.	IT	He	1339	on N slope grown on rocky places
397*	*Euphorbia chamaesyce* L.	IT/M	Th	976-1504	Weed in gardens
398	*Euphorbia cheiradenia* Boiss. & Hohen. *	IT	He	1586	Montane scrubs
399	*Euphorbia densa* Schrenk	IT	Th	1550-1955	Weed in gardens
400	*Euphorbia gedrosiaca* Rech.f., Aellen & Esfand. *	IT	He	1240	*Artemisia* steppes
401	*Euphorbia granulata* Forssk. *	SS/SU	Th	1200-1730	
402	*Euphorbia microsciadia* Boiss.	IT	He	1000-1955	Montane scrubs
403*	*Euphorbia peplus* L.	ES/IT/M	Th	925	Weed in gardens
404	*Euphorbia petiolata* Banks & Sol.	IT/M	Th	936-1284	
405	*Euphorbia polycaulis* Boiss. & Hohen.	IT*	He	1415-3169	Montane scrubs
406	*Euphorbia seguieriana* Neck.	ES/IT	He	1100-1504	Weed in gardens
407*	*Euphorbia szovitsii* Fisch. & C.A.Mey.	IT	Th	1269-1389	Montane scrubs
	Fabaceae				
408	*Alhagi maurorum* Medik.	IT	He	830-1220	
409	*Alhagi pseudalhagi* (M.Bieb.) Desv. ex B.Keller & Shap.	IT	He	929-2165	Weed in farmlands
410*	*Astragalus abditus* Podlech	IT*	He	3094	Montane scrubs
411	*Astragalus aegobromus* Boiss. & Hohen.	IT	He	1450-3016	Montane scrubs , on N slope
412	*Astragalus ajubensis* Bunge	IT	He	1648-1892	Montane scrubs
413	*Astragalus anacamptus* Bunge *	IT*	He	1600	Montane scrubs
414	*Astragalus argyroides* Beck *	IT	He	1360	Montane scrubs
415	*Astragalus ashtianensis* Podlech & Maassoumi *	IT*	He	1800	Montane scrubs
416	*Astragalus askius* Bunge	IT	He	1877	Montane scrubs, on N slope
417	*Astragalus bakaliensis* Bunge	IT	Th	900-1200	
418	*Astragalus biarjmandicus* Podlech & Zarre *	IT	Ch	870	*Artemisia* steppe
419	*Astragalus bombycinus* Boiss. *	IT/M/SS	Th	1100	*Artemisia* steppes
420*	*Astragalus botryophorus* Maassoumi & Podlech	IT*	He	2591-2636	Montane scrubs
421	*Astragalus brachyodontus* Boiss.	IT*	He	1140-1933	Scrubs, on NW slope
422	*Astragalus brevifructus* Podlech	IT	He	1850	Montane scrubs
423	*Astragalus callistachys* Buhse *	IT*	Ch	1200-1360	*Artemisia* steppes
424	*Astragalus caraganae* Fisch. & C.A.Mey.	IT	He	2150	Montane scrubs
425	*Astragalus cemerinus* Beck	IT*	Ch	942-2165	Montane scrubs , *Artemisia*
426	*Astragalus cephalanthus* DC.	IT*	Ch	1698-1877	Montane scrubs
427*	*Astragalus chrysostachys* Boiss.	IT	Ch	1576	Montane scrubs
428*	*Astragalus comosus* Bunge	IT	He	3074	Montane scrubs, on SE slope
429	*Astragalus compactus* Lam. *	IT	Ch	2504	Montane scrubs
430	*Astragalus crenatus* Schult. *	IT/M/SS	Th	1650	
431*	*Astragalus dactylocarpus* Boiss.	IT	Ch	1160	Artemisia steppe, on S slope
432	*Astragalus daenaensis* Boiss.	IT	He	2850	Montane scrubs
433	*Astragalus effusus* Bunge	IT	He	1576-2149	Montane scrubs, on N slope
434	*Astragalus floccosus* Boiss. *	IT*	Ch	1300-1500	Montane scrubs
435	*Astragalus glaucacanthos* Fisch.	IT*	Ch	850-1784	Montane scrubs , *Artemisia* steppe
436	*Astragalus gossypinus* Fisch.	IT	Ch	1250-1564	Montane scrubs
437	*Astragalus guttatus* Banks & Sol.	IT	Th	1750	Montane scrubs
438	*Astragalus harpilobus* Kar. & Kir. *	PL	Th	750	*Artemisia* steppes

439	*Astragalus hauarensis* Boiss.	PL	Th	900	*Artemisia* steppes
440	*Astragalus hirtus* Bunge	IT	He	1867	Montane scrubs
441	*Astragalus indistinctus* Podlech & Maassoumi *	IT*	He	900	*Artemisia* steppes
442	*Astragalus ischredensis* Bunge	IT	He	1250	*Artemisia* steppes
443	*Astragalus kerkukiensis* Bornm. *	IT	Th	900	*Artemisia* steppes
444	*Astragalus kirrindicus* Boiss. *	IT	He	1800	Montane scrubs
445	*Astragalus lagopoides* Lam.	IT	Ch	1950	
446*	*Astragalus latifolius* Lam.	IT	He	1202-1271	*Artemisia* steppes
447	*Astragalus longistylus* Bunge	IT	Ch	1350	*Artemisia* steppes
448	*Astragalus macrocephalus* Willd.	IT	He	1648-1900	Montane scrubs
449	*Astragalus macropelmatus* Bunge	IT	He	1279-1799	Montane scrubs, *Artemisia* steppes
450	*Astragalus mesoleios* Boiss. & Hohen. *	IT	Ch	2250	Montane scrubs
451	*Astragalus mucronifolius* Boiss.	IT*	Ch	1140-1417	Montane scrubs, *Artemisia* steppes
452	*Astragalus nalbandanicus* Podlech *	IT*	He	1250	*Artemisia* steppes
453	*Astragalus ovinus* Boiss. *	IT	He	1860	Montane scrubs
454	*Astragalus oxyglottis* M.Bieb. *	IT	Th	1300	Low sand dunes
455	*Astragalus podolobus* Boiss.	IT	Ch	900-1195	*Artemisia* steppes
456*	*Astragalus ptychophyllus* Boiss.	IT*	Ch	1795	Montane scrubs
457	*Astragalus schahrudensis* Bunge *	IT	He	1900	Montane scrubs
458	*Astragalus schimperi* Boiss.	SS/IT	Th	900	*Artemisia* steppes
459	*Astragalus sitiens* Bunge	IT	He	1270	*Artemisia* steppes
460	*Astragalus spachianus* Boiss.	IT*	He	1710-2717	Montane scrubs , on N slope
461	*Astragalus squarrosus* Bunge	IT	He	885-1080	*Artemisia* steppes
462	*Astragalus straussii* Hausskn. ex Bornm.	IT*	Ch	1836	Montane scrubs
463	*Astragalus submitis* Boiss. & Hohen.	IT*	Ch	3053	Montane scrubs , on SE slope
464	*Astragalus supervisus* (Kuntze) E.Sheld. *	IT*	He	1300-2000	Montane scrubs
465	*Astragalus teheranicus* Boiss.	IT*	He	900-1247	scrubs , steep SW slope
466	*Astragalus tribuloides* Delile	IT/SS	Th	825-1200	*Artemisia* steppe
467	*Astragalus tricholobus* DC.	IT	Ch	1576-1858	Montane scrubs , on NW slope
468	*Astragalus vanillae* Boiss.	IT	Ch	981-2150	Montane scrubs, *Artemisia* steppes
469	*Chesneya astragalina* Jaub. & Spach	IT	He	850-1160	*Artemisia* steppe
470*	*Cicer anatolicum* Alef.	IT	He	2943	Montane scrubs
471	*Cicer oxyodon* Boiss. & Hohen.	IT	He	1962	Montane scrubs
472	*Glycyrrhiza glabra* L.	ES/IT/M	Ge	929-1808	In disturbed habitats
473	*Hedysarum wrightianum* Aitch. & Baker *	IT	He	1900-2000	Montane scrubs
474	*Lotus corniculatus* L.	ES/M/IT	He	2294-2554	wet ground around spring under shade of willows
475	*Lotus michauxianus* Ser.	ES/IT/M	He	1687-2553	Montane scrubs ,on E slope
476	*Medicago lupulina* L.	IT	Th	1550-2497	Weed in garden
477	*Medicago medicaginoides* (Retz.) E.Small	ES/IT	Th	1288	
478	*Medicago monantha* (C.A.Mey.) Trautv.	IT	Th	1266-2020	Montane scrubs ,on NW slope
479	*Medicago radiata* L.	IT/M	Th	1801-2230	Montane scrubs
480	*Medicago sativa* L.	M/IT	He	929-2405	Farmlands
481*	*Melilotus albus* Medik.	ES/M/IT	Th	1183	Weed in garden
482	*Melilotus officinalis* (L.) Pall.	ES/IT/M	Th	2190-2497	Weed in garden
483	*Onobrychis aucheri* Boiss.	IT	Th	850-2050	Montane scrubs, *Artemisia* steppes
484	*Onobrychis cornuta* (L.) Desv.	IT	Ch	3011-3161	Montane scrubs
485	*Onobrychis melanotricha* Boiss.	IT*	He	1565-2070	Montane scrubs
486	*Ononis spinosa* L.	IT/M	Ch	2060-2554	Moist and waste places
487	*Ophiocarpus aitchisonii* (Baker) Podlech	IT	Th	881-965	*Artemisia* steppes
488	*Securigera varia* (L.) Lassen	ES	Ge	1809-2554	wet ground around spring under shade of willows
489	*Sophora alopecuroides* L.	ES/IT	He	1200-1801	Weed in gardens
490	*Trifolium fragiferum* L.	ES/IT/M	Ge	1350-1700	On damp clay soils
491	*Trifolium pratense* L.	IT/M	He	1550-2497	Wet ground around spring
492	*Vicia iranica* Boiss.	IT	He	2100-2380	Montane scrubs
493	*Vicia monantha* Retz.	M/IT	Th	900	Weed in fields and gardens
494	*Vicia narbonensis* L. *	ES/IT/M	Th	1250	Weed in gardens
	Frankeniaceae				
495	*Frankenia hirsuta* L.	ES/M	He	900-1700	Saline soils
	Fumariaceae				
496	*Fumaria asepala* Boiss.	IT/M	Th	1550-2272	Wet ground around spring under shade of willows
497	*Fumaria vaillantii* Loisel.	ES/IT/M	Th	1920-2020	Weed in gardens
	Geraniaceae				
498	*Erodium cicutarium* (L.) L'Hér.	ES/M/IT	Th	1039-1748	Wet ground of dam lake

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499	*Erodium gruinum* (L.) L'Hér.	IT/M	Th	1556	Montane scrubs
500	*Erodium laciniatum* (Cav.) Willd. *	M/SS	Th	1080-1140	*Artemisia* steppes
501	*Erodium oxyrhinchum* M.Bieb. *	IT	Th	750-1550	On sand dune, on SE slope
502*	*Geranium kotschyi* Boiss.	IT	Ge	3055-3139	Montane scrubs
503	*Geranium rotundifolium* L.	ES/IT/M	Th	1036	Montane scrubs, on N slope
504	*Geranium tuberosum* L.	ES/IT/M	Ge	1444-3169	Montane scrubs, on E slope
	Hypericaceae				
505	*Hypericum hirtellum* (Spach) Boiss.	IT	He	1911	Montane scrubs
506	*Hypericum scabrum* L.	IT	He	1660-2519	Montane scrubs, on E slope
	Lamiaceae				
507	*Ajuga chamaecistus* Ging. ex Benth.	IT/M	Ch	1315-1996	Montane scrubs, on S slope
508	*Chamaesphacos ilicifolius* Schrenk *	PL	Th	900	
509	*Clinopodium graveolens* (M.Bieb.) Kuntze	IT/M	Th	1560-2591	Montane scrubs
510	*Eremostachys molucelloides* Bunge	IT	Ge	1350-2200	Montane scrubs, On rocky place
511	*Hymenocrater bituminosus* Fisch. & C.A.Mey. *	IT	Ch	1400-1500	Montane scrubs
512*	*Hymenocrater incanus* Bunge	IT*	Ch	1011-1815	*Artemisia* steppe, on N slope
513	*Lagochilus macracanthus* Fisch. & C.A.Mey. *	IT*	Ch	900	*Artemisia* steppes
514	*Lallemantia iberica* (M.Bieb.) Fisch. & C.A.Mey.	IT	Th	2048	Montane scrubs , on NE slope
515	*Lallemantia royleana* (Benth.) Benth.	IT	Th	1039-1418	margin of river
516	*Lamium album* L.	ES/IT	He	2522-2686	Montane scrubs , on NE slope
517	*Lamium amplexicaule* L.	ES/IT/M	He	1743-2609	Montane scrubs , on NE slope
518	*Marrubium anisodon* K.Koch	ES/IT	He	1648-1855	Montane scrubs
519	*Marrubium cuneatum* Banks & Sol. *	ES/IT	He	1500-1930	Montane scrubs
520*	*Marrubium parviflorum* Fisch. & C.A.Mey.	IT	He	1577	Montane scrubs
521	*Marrubium vulgare* L.	M/IT	He	1600-2250	Montane scrubs ,
522	*Mentha longifolia* (L.) L.	PL	He	1504-2763	Margin of streams
523	*Nepeta cataria* L. *	ES/IT	He	1700-2000	Damp places
524	*Nepeta ispahanica* Boiss.	IT	He	881-2541	*Artemisia* steppe, on E slope
525	*Nepeta laxiflora* Benth.	IT*	Th	2678-3208	Montane scrubs
526	*Nepeta meyeri* Benth. *	IT	Th	780-2120	*Artemisia* steppe
527*	*Nepeta oxyodonta* Boiss.	IT*	He	2702	Montane scrubs
528	*Nepeta persica* Boiss.	IT	He	1223-1730	Montane scrubs, on E slope
529	*Nepeta pungens (B*unge) Benth.	IT	Th	1955-2926	Montane scrubs
530	*Nepeta saccharata* Bunge	IT	Th	879-2591	*Artemisia* steppe
531	*Nepeta teucriifolia* Willd. *	IT	He	2000-2200	Montane scrubs
532	*Phlomis olivieri* Benth.	IT	He	1780-2350	Montane scrubs, on E slope
533	*Salvia atropatana* Bunge	IT	He	2282	Montane scrubs
534	*Salvia chloroleuca* Rech.f. & Aellen	IT	He	1805-2100	Montane scrubs
535	*Salvia hydrangea* DC. ex Benth.	IT	Ch	1836	Montane scrubs, on NE slope
536	*Salvia limbata* C.A.Mey.	IT	He	1742	Montane scrubs, on N slope
537	*Salvia macrosiphon* Boiss.	IT	He	1742	Montane scrubs
538	*Salvia multicaulis* Vahl	IT	Ch	1500-2786	Montane scrubs
539	*Salvia nemorosa* L. *	ES/IT	He	1700-2220	Montane scrubs
540	*Salvia reuteriana* Boiss. *	IT	He	2000	Montane scrubs
541	*Salvia sclarea* L.	ES/IT/M	He	1160-2606	Montane scrubs, on rocky place
542*	*Salvia spinosa* L.	IT	He	1043-1088	*Artemisia* steppes
543	*Scutellaria multicaulis* Boiss.	IT	Ch	3151	Montane scrubs
544	*Scutellaria pinnatifida* A.Ham.	IT	Ch	1250-1933	Montane scrubs
545	*Stachys acerosa* Boiss.	IT*	Ch	2020-2717	Montane scrubs, on E slope
546	*Stachys annua* (L.) L. *	ES/IT/M	Th	2200	Disturbed places
547*	*Stachys fruticulosa* M.Bieb.	IT	Ch	1088	*Artemisia* steppes
548	*Stachys inflata* Benth.	IT	He	967-1907	*Artemisia* steppes, on N slope
549	*Stachys setifera* C.A.Mey.	IT	He	1922-2763	wet ground around spring under shade of willows
550	*Teucrium orientale* L.	IT	He	1576-2190	Montane scrubs, on NE slope
551	*Teucrium polium* L.	M/IT	He	981-1784	Montane scrubs, *Artemisia* steppes
552	*Thuspeinanta persica* (Boiss.) Briq. *	IT	Th	900	scrubs
553	*Thymus daenensis* Celak. *	IT	Ch	2400	Montane scrubs
554	*Thymus kotschyanus* Boiss. & Hohen.	IT	Ch	1740-3218	Montane scrubs
555*	*Thymus pubescens* Boiss. & Kotschy ex Celak.	IT	Ch	1425-2660	Montane scrubs , on NW slope
556	*Vitex agnus-castus* L.	IT/M	Ph	1017-1250	Margin of river
557	*Ziziphora clinopodioides* Lam.	IT	Ch	1600-2909	Montane scrubs , on E slope
558	*Ziziphora persica* Bunge *	IT	Th	750	*Artemisia* steppes
559	*Ziziphora tenuior* L.	IT	Th	825-1765	Montane scrubs, *Artemisia* steppes
	Linaceae				
560	*Linum album Kotschy* ex Boiss.	IT	He	1708-2100	Montane scrubs

	Lythraceae				
561	*Punica granatum* L.	Cu	Ph	925-1575	Cultivated
	Malvaceae				
562*	*Abutilon theophrasti* Medik.	Paleotr/Advent	Th	929	Farmland
563	*Alcea angulata* Freyn & Sint.	IT	He	870-1930	Montane scrubs, *Artemisia* steppes
564	*Alcea koelzii* Riedl *	IT*	He	1350	Montane scrubs, *Artemisia* steppes
565	*Alcea kurdica* Alef. *	IT	He	1470	Montane scrubs, *Artemisia* steppes
566	*Alcea rosea* L.	M	He	2044	Montane scrubs
567*	*Alcea tabrisiana* Boiss. & Buhse	IT	He	1517-1984	Montane scrubs
568	*Alcea transcaucasica* (Iljin ex Grossh.) Iljin *	IT	He	1700	Montane scrubs
569*	*Althaea aucheri* Boiss.	IT	He	1026	*Artemisia* steppes
570	*Malva neglecta* Wallr.	IT	He	1450-2123	Weed in Farmland
571	*Malva sylvestris* L.	M/ES/IT	He	915-2323	Weed in Farmland
	Mimosaceae				
5722	*Prosopis farcta* (Banks & Sol.) J.F.Macbr.	IT	He	929-1700	Disused farmland
573	*Prosopis koelziana* Burkart	SS	Ph	1000	
	Moraceae				
574	*Ficus carica* L.	Cu	Ph	1117-1388	Scrubs, on rocky place
575	*Morus alba* L.	Cu	He	1432-2000	Cultivated
	Nitrariaceae				
576	*Nitraria schoberi* L. *	IT	Ch	800	Saline soil in desert
577	*Peganum harmala* L.	IT/SS	He	810-2308	Disturbed places
	Oleaceae				
578	*Fraxinus angustifolia* Vahl.	ES	Ph	920-1760	Seasonal dry river
	Onagraceae				
579	*Epilobium hirsutum* L.	PL	Ge	1800-1967	Margin of streams in gardens
	Orobanchaceae				
580	*Cistanche laxiflora* Aitch. & Hemsl.	IT	Ge	1100	Margin of farm field
581	*Cistanche tubulosa* (Schenk) Wight	PL	Ge	800	Margin of farm field
582	*Orobanche cernua* Loefl.	M/SS/IT	Ge	1140	
583*	*Orobanche nana* (Reut.) Beck	IT/M	Ge	1361-3218	On the seasonal waterway below the cliff
	Papaveraceae				
584	*Glaucium calycinum* Boiss. *	IT	Th	1448-1500	Montane scrubs
585	*Glaucium contortuplicatum* Boiss.	M/IT	Th	1240	
586	*Glaucium corniculatum* (L.) Curtis *	IT/M	Th	1500-2100	Montane scrubs
587	*Glaucium elegans* Fisch. & C.A.Mey.	IT	Th	1049-2130	Seasonal dry river
588	*Glaucium grandiflorum* Boiss. & A.Huet	IT	He	1900	Montane scrubs
589	*Hypecoum pendulum* L.	IT/M	Th	1039-1550	*Artemisia* steppes
590	*Papaver arenarium* M.Bieb.	IT	Th	1023-1199	*Artemisia* steppes
591	*Papaver argemone* L. *	M/IT/ES	Th	1550-2000	Montane scrubs, disturbed soils
592	*Papaver decaisnei* Hochst. & Steud. ex Elkan	IT	Th	1448	Montane scrubs, disturbed soils
593	*Papaver dubium* L.	ES/IT/M	Th	1550-1576	Montane scrubs, disturbed soils
594	*Papaver macrostomum* Boiss. & A.Huet	IT	Th	1550-1795	Montane scrubs, disturbed soils
595	*Papaver rhoeas* L.	ES/IT/M	Th	1000	*Artemisia* steppes
596	*Papaver tenuifolium* Boiss. & Hohen. *	IT	Th	1080-1150	
597	*Roemeria hybrida* (L.) DC.	IT/M	Th	1080-1550	*Artemisia* steppes
598	*Roemeria refracta* DC.	IT	Th	1740	*Artemisia* steppes
	Phyllanthaceae				
599	*Andrachne fruticulosa* Boiss. *	IT*	He	1550	Montane scrubs
	Plantaginaceae				
600	*Kickxia elatine* (L.) Dumort.	ES/IT/M	Th	960	At the margins of arable fields
601	*Linaria michauxii* Chav.	IT*	He	1201	*Artemisia* steppes
602*	*Linaria simplex* Desf.	IT	Th	1195	*Artemisia* steppes
603	*Plantago lanceolata* L.	ES/M/IT	He	922-2380	Margin of stream in farmland
604	*Plantago major* L.	PL	He	1504-1955	Margin of stream in farmland
605	*Veronica anagallis-aquatica* L.	Co	Ge	1021-2159	Margin of streams in gardens
606	*Veronica anagallis-aquatica* subsp. *Michauxii* x *anagalloides* subsp. *heureka*	Co	Ge	1504-2763	In margin of streams in gardens
607*	*Veronica anagalloides* Guss.	ES/M/IT	He	1504-2763	On humid wall of dam
608	*Veronica beccabunga* L.	ES/IT/M	He	1560-2324	Montane scrubs , wet ground around spring
609	*Veronica campylopoda* Boiss. *	IT	Th	900-2200	Montane scrubs ,
610	*Veronica orientalis* Mill.	IT	He	2926-2973	Montane scrubs, on SE slope
	Platanaceae				

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611	*Platanus orientalis* L.	IT/M	Ph	2000	In bed of valley
	Plumbaginaceae				
612	*Acantholimon acmostegium* Boiss. & Buhse *	IT*	Ch	870	*Artemisia* steppes
613	*Acantholimon aspadanum* Bunge	IT*	Ch	960-1350	*Artemisia* steppes, on N slope grown on rocky place
614	*Acantholimon bromifolium* Boiss. ex Bunge	IT	Ch	985-2553	Montane scrubs, *Artemisia* steppes
615	*Acantholimon erinaceum* (Jaub & Spach) Lincz	IT	Ch	2100-3122	Montane scrubs
616*	*Acantholimon hystrix* Stapf	IT	Ch	1605	Montane scrubs, on S slope
617	*Acantholimon quinquelobum* Bunge	IT	Ch	850-1350	*Artemisia* steppes, on N slope
618	*Acantholimon schahrudicum* Bunge *	IT*	Ch	1250-1500	Montane scrubs, *Artemisia* steppes
619	*Acantholimon scorpius* (Jaub. & Spach) Boiss.	IT*	Ch	1780-2137	*Artemisia* steppes, on E slope
620	*Acantholimon talagonicum* Boiss.	IT*	Ch	1750-2150	Montane scrubs
621	*Acantholimon truncatum* Bunge *	IT	Ch	2200	Montane scrubs
622	*Limonium iranicum* (Bornm.) Lincz. *	IT	He	1150	Saline soils
	Polygalaceae				
623	*Polygala hohenackerana* Fisch. & C.A.Mey. *	IT	Ch	965-2020	Montane scrubs, *Artemisia* steppes
	Polygonaceae				
624	*Atraphaxis spinosa* L.	ES/IT/M	Ch	1809-2020	Montane scrubs , dry stream bed
625	*Calligonum leucocladum* (Schrenk) Bunge *	IT	Ph	900	Sand dune
626	*Calligonum persicum* (Boiss. & Buhse) Boiss.	IT	Ph	850	Sand dune
627	*Fallopia convolvulus* (L.) Á.Löve	PL	Th	945-2300	Montane scrubs, *Artemisia* steppes
628	*Polygonum arenastrum* Boreau	PL	Th	1550-2071	Montane scrubs
629*	*Polygonum aviculare* L.	PL	Th	917	Weed in farmland
630	*Polygonum cognatum* Meisn.	ES/IT	He	1797	Wet ground around qanat
631	*Polygonum hyrcanicum* Rech.f. *	ES	He	1250	Montane scrubs
632	*Polygonum paronychioides* C.A.Mey.	IT	Ch	1550-1962	Montane scrubs
633	*Polygonum patulum* M.Bieb.	IT/M	Th	915-929	Weed in farmland
634	*Pteropyrum olivieri* Jaub. & Spach	IT	Ph	924-1803	Montane scrubs, *Artemisia* steppes, in dry river
635	*Rheum ribes* L.	IT	Ge	1445-2500	Montane scrubs, *Artemisia* steppes
636	*Rumex chalepensis* Mill.	IT	He	1967	Margin of streams in gardens
637	*Rumex crispus* L.	PL	He	1675-1922	Weed in farmland
	Portulacaceae				
638	*Portulaca oleracea* L.	PL	Th	1050	Weed in farmland
	Primulaceae				
639	*Androsace maxima* L.	ES/IT/M	Th	2072	Montane scrubs
640*	*Samolus valerandi* L.	PL	Th	1417-2763	Spring pool
	Ranunculaceae				
641	*Adonis aestivalis* L.	ES/IT/M	Th	1500-2926	In disturbed habitate
642	*Ceratocephalus falcatus* (L.) Pers.	IT/M	Th	1039-2275	wet ground of dam lake
643	*Clematis orientalis* L.	IT	Ch	2073	in seasonal dry river
644	*Consolida orientalis* (J.Gay) Schrödinger	ES/IT/M	Th	1626-2320	Margin of streams of gardens
645	*Consolida persica* (Boiss.) Grossh.	IT	Th	1009	Margin of streams of gardens
646*	*Delphinium hohenackeri* Boiss.	IT	Th	1886	Montane scrubs
647*	*Delphinium pallidiflorum* Freyn	IT	Ge	1576-1771	Montane scrubs , on N slope
648	*Delphinium tuberosum* Aucher ex Boiss.	IT*	Ge	1802	Montane scrubs
649*	*Ranunculus aquatilis* L.	ES/IT/M	Th	1599-2159	Spring pool
650*	*Ranunculus aucheri* Boiss.	IT	Ge	2932-3123	Montane scrubs, on S slope
651	*Ranunculus oxyspermus* Willd.	ES/IT/M	Ge	1572-2200	Montane scrubs
652	*Thalictrum minus* L.	IT/M	He	1920-2370	Weed in gardens
	Resedaceae				
653	*Reseda arabica* Boiss. *	SS	Th	800-1100	*Artemisia* steppes
654	*Reseda aucheri* Boiss.	IT	He	945-1870	In disturbed habitats
655	*Reseda buhseana* Müll.Arg.	IT	Th	1572-1700	Montane scrubs
656	*Reseda bungei* Boiss. *	IT*	He	900-1350	*Artemisia* steppes
657	*Reseda lutea* L.	IT/M	Th	1455-1832	Disturbed soil
	Rhamnaceae				
658	*Rhamnus pallasii* Fisch. & C.A.Mey.	IT	Ph	1175-2087	Montane scrubs , on rocky place
659	*Ziziphus jujuba* Mill.	Cu	Ph	1445	Cultivated
660	*Ziziphus spina-christi* (L.) Desf.	SU	Ph	932	Cultivated
	Rosaceae				
661	*Amygdalus communis* L.	IT/M	Ph	2000-2200	Cultivated in bed of valley
662	*Amygdalus haussknechtii* C.K.Schneid. ex Bornm.	IT*	Ph	2120	Montane scrubs , on N slope , grown on rocky place
663	*Amygdalus lycioides* Spach	IT	Ph	982-2170	Montane scrubs
664	*Amygdalus scoparia* Spach	IT	Ph	1065-2085	Montane scrubs , on S slope
665*	*Amygdalus scoparia* Spach x *Amygdalus*	IT	Ph	2085	Montane scrubs , on S slope

	lycioides Spach				
666	*Amygdalus x keredjensis* Browicz	IT	Ph	1170	Montane scrubs
667	*Cerasus microcarpa* (C.A.Mey.) Boiss.	IT	Ph	2040	Montane scrubs
668	*Cotoneaster nummularius* Fisch. & C.A.Mey.	IT/M	Ph	1569-2575	Montane scrubs, on S slope
669	*Crataegus ambigua* C.A.Mey. ex A.K.Becker	IT	Ph	1920-2553	near spring among willows and barberry trees
670	*Potentilla micrantha* Ramond ex DC. *	ES/IT/M	He	1880	
671	*Rosa beggeriana* Schrenk ex Fisch. & C.A.Mey.	IT	Ph	1805-2350	Montane scrubs , on NW slope
672*	*Rosa canina* L.	ES/IT/M	Ph	1359-1975	Montane scrubs, in wet ground around spring under shade of willows
673	*Rosa orientalis* A.Dupont ex Ser.	IT	Ph	1670-2120	Montane scrubs on N slope grown on rocky place
674	*Rosa persica* Michx. ex Juss.	IT	Ch	1300-2050	Montane scrubs , on SE slope
675	*Rubus caesius* L.	ES/IT	Ch	1504-1970	Montane scrubs, On disturbed soil and over grazed range
676	*Rubus sanctus* Schreb.	M/IT	Ph	1967	Montane scrubs, margin of streams in gardens
677	*Sanguisorba minor* Scop.	ES/IT/M	He	1572-2380	Montane scrubs, in bed of valley
	Rubiaceae				
678	*Asperula arvensis* L.	IT/M	Th	1900-2932	Montane scrubs
679	*Asperula glomerata* (M.Bieb.) Griseb.	IT	Ch	1741-2420	Montane scrubs , on NW slope
680	*Asperula trichodes* J.Gay ex DC. *	IT	Th	1200	
681	*Callipeltis cucullaris* (L.) DC.	IT/M	Th	968-1805	Montane scrubs, *Artemisia* steppes
682	*Cruciata taurica* (Pall. ex Willd.) Ehrend.	IT	Ch	1896-2553	Montane scrubs, on SE slope
683*	*Galium ceratopodum* Boiss.	IT	Th	1032-1775	Montane scrubs, on N slope
684	*Galium humifusum* M.Bieb.	IT/M	He	1504-2596	Montane scrubs, weed in gardens
685*	*Galium mite* Boiss. & Hohen.	IT	He	2028	Montane scrubs,
686*	*Galium setaceum* Lam.	IT/M	Th	1043-1160	Montane scrubs, *Artemisia* steppes
687*	*Galium spurium* L.	ES/IT/M	Th	1417-1808	Montane scrubs
688	*Plocama bruguieri* (A.Rich. ex DC.) M.Backlund & Thulin.	IT	He	1096-1900	Montane scrubs
689	*Rubia tinctorum* L.	IT/M	He	929-1955	Weed in gardens
	Rutaceae				
690	*Haplophyllum acutifolium* (DC.) G.Don	IT	He	1766	Montane scrubs
691	*Haplophyllum rubrotinctum* C.C.Towns.	IT*	He	1650	Montane scrubs
	Salicaceae				
692	*Salix alba* L.	PL	Ph	1576-1807	Montane scrubs, in bed of valley
	Santalaceae				
693	*Thesium kotschyanum* Boiss.	IT/M	Ge	2897-2907	Montane scrubs
	Sapindaceae				
694	*Acer monspessulanum* L.	IT	Ph	1740-2027	Montane scrubs, on N slope
	Scrophulariaceae				
695*	*Scrophularia nervosa* Benth.	IT	He	3058	Montane scrubs, on SE slope
696	*Scrophularia sanguinea* Grau	IT	He	1876	Montane scrubs
697	*Scrophularia striata* Boiss.	IT	Ch	1415-2200	Montane scrubs , On disturbed soil
698	*Verbascum disjectum* (Murb.) Hub.-Mor. *	IT*	He	950	
699*	*Verbascum sinuatum* L.	IT/M	He	2443	Montane scrubs, on NW slope
700	*Verbascum speciosum* Schrad.	ES/IT	He	1957-2200	Montane scrubs
	Solanaceae				
701	*Datura innoxia* Miller	Cu	Th	925-1550	In disturbed habitats
702	*Hyoscyamus arachnoideus* Pojark.	IT	He	2000-2320	Montane scrubs
703	*Hyoscyamus pusillus* L.	IT/SS	Th	950-1500	*Artemisia* steppes
704	*Hyoscyamus reticulatus* L.	IT	Th	1080	In disturbed habitats
705	*Hyoscyamus senecionis* Willd.	IT	He	1837-3227	Montane scrubs, on N slope
706	*Lycium depressum* Stocks	IT	He	929-1376	In margin of seasonal river
707	*Solanum nigrum* Ll.	Co	Th	945-1955	Weed in gardens
	Tamaricaceae				
708	*Reaumuria alternifolia* (Labill.) Britten *	IT	Ch	900-1700	Moderately saline soils
709	*Tamarix aralensis* Bunge *	IT	Ph	950-980	Saline and moist soils
710	*Tamarix kotschyi* Bunge	IT	Ph	800-1185	Margin of river with brakish water
711	*Tamarix laxa* Willd. *	IT	Ph	1000	Saline and moist soils
712	*Tamarix passerinoides* Delile	SS/SU	Ph	800-950	Near Salt-marshes
713	*Tamarix ramosissima* Ledeb.	IT	Ph	950-1929	Margin of river
714	*Tamarix szovitsiana* Bunge	IT	Ph	870	Saline and moist soils
715*	*Tamarix tetragyna* Ehrenb.	M	Ph	993	Margin of seasonal river

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716	*Tamarix tetrandra* Pall. ex M.Bieb.	IT/M	Ph	1105	Saline and moist soils
	Thymelaeaceae				
717	*Diarthron lessertii* (Wikstr.) Kit Tan	IT	Ch	830-2027	*Artemisia* steppes
718	*Diarthron vesiculosum* (Fisch. & C.A.Mey.) C.A.Mey. *	IT	Th	1000-1100	*Artemisia* steppes
	Urticaceae				
719	*Parietaria judaica* L.	ES/IT/M	Ch	1036-1781	In crevices of stone
720	*Urtica dioica* L.	PL	He	2000-2300	Weed in gardens
	Valerianaceae				
721	*Valeriana sisymbriifolia* Vahl	IT	He	1490	Montane scrubs
722	*Valerianella dufresnia* Bunge ex Boiss.	IT	Th	1049-1417	Montane scrubs
723	*Valerianella szovitsiana* Fisch. & C.A.Mey. *	IT	Th	1500	Montane scrubs
724	*Valerianella triplaris* Boiss. & Buhse *	IT	Th	850-1080	*Artemisia* steppes
	Violaceae				
725*	*Viola modesta* House	IT/M	Th	2078	Montane scrubs ,wet ground around spring
726	*Viola occulta* Lehm.	IT	Th	1805-2100	Montane scrubs , wet ground around spring
727	*Viola odorata* L.	ES/M	He	1935-2200	Montane scrubs , Margin of streams of garden
	Zygophyllaceae				
728	*Fagonia olivieri* DC.	IT	Ch	965-1009	*Artemisia* steppe
729	*Tribulus macropterus* Boiss. *	SS/SU	Th	800-900	Sandy and gravelly ground
730	*Tribulus mollis* Ehrenb. ex Schweinf. *	Ea/SS	Th	900	Sandy and gravelly ground
731	*Tribulus pentandrus* Forssk.	SU/SS	Th	825-861	Sandy and gravelly ground
732	*Tribulus terrestris* L.	PL	Th	900-1358	Weed in Farmland
733	*Zygophyllum atriplicoides* Fisch. & C.A.Mey. *	IT	Ch	900-1000	*Artemisia* steppes
734	*Zygophyllum fabago* L.	IT	He	1081-1572	On road side
	Monocots				
	Amaryllidaceae				
735	*Allium akaka* S.G.Gmel. ex Schult. & Schult.f. *	IT	Ge	1900	Montane scrubs
736	*Allium ampeloprasum* L. *	IT/M	Ge	2000	Montane scrubs
737	*Allium atroviolaceum* Boiss. *	IT	Ge	1700	Montane scrubs
738	*Allium graveolens* (R.M.Fritsch) R.M.Fritsch	IT	Ge	1850	Montane scrubs
739	*Allium materculae* Bordz.	IT	Ge	1576-2935	Montane scrubs , on E slope
740*	*Allium sabulosum* Steven ex Bunge	IT	Ge	1088	*Artemisia* steppes
741	*Allium scabriscapum* Boiss.	IT	Ge	1339-1829	on N slope grown on rocky place
742	*Allium stipitatum* Regel	IT	Ge	2000-2400	Montane scrubs , In gardens
743	*Allium umbilicatum* Boiss. *	IT	Ge	1070	*Artemisia* steppes
744	*Allium xiphopetalum* Aitch. & Baker	IT	Ge	1784-2900	Montane scrubs , *Artemisia* steppes
	Asparagaceae				
745	*Asparagus persicus* Baker	IT	He	1113	On N slope Grown in wet ground around qanat
746	*Bellevalia decolorans* Bornm.	IT	Ge	1452	Montane scrubs
747	*Leopoldia longipes* (Boiss.) Losinsk.	IT	Ge	2180-2926	Montane scrubs
748*	*Leopoldia tenuiflora* (Tausch) Heldr.	IT	Ge	1836	Montane scrubs , on N slope
749	*Muscari neglectum* Guss. ex Ten.	ES/IT/M	Ph	1284-1743	Montane scrubs , *Artemisia* steppes , in wet ground around spring
750	*Ornithogalum cuspidatum* Bertol.	IT	Ge	2840	Montane scrubs
751	*Ornithogalum orthophyllum* Ten.	ES/M	Ge	2179-2770	Montane scrubs , on E slope
	Asphodelaceae				
752	*Eremurus olgae* Regel *	IT	Ge	1836-2351	Montane scrubs
753	*Eremurus persicus* (Jaub. & Spach) Boiss.	IT	Ge	2651	Montane scrubs , on E slope
	Colchicaceae				
754	*Colchicum kotschyi* Boiss. *	IT	Ge	1794	Montane scrubs
755	*Colchicum persicum* Baker	ES	Ge	2570-2578	Montane scrubs, in bed of valley
756	*Colchicum robustum* (Bunge) Stef. *	IT	Ge	1300	
757*	*Colchicum szovitsii* Fisch. & C.A.Mey.	IT	Ge	1700	Montane scrubs
758	*Colchicum varians* (Freyn & Bornm.) Dyer *	IT*	Ge	1390-1600	Montane scrubs
	Cyperaceae				
759	*Bolboschoenus maritimus* (L.) Palla *	Co	He	1700	Marshes and river banks
760	*Carex divisa* Huds. *	ES/IT/M	He	890	Damp places
761	*Carex physodes* M.Bieb. *	IT	He	750	Sand dunes
762	*Carex stenophylla* Wahlenb.	IT	He	2003-2020	Montane scrubs, Artemisia steppes
763	*Cyperus conglomeratus* Rottb.	SS	He	802-950	In sandy ground
764	*Cyperus laevigatus* L.	IT/M/SS	He	1150	In sandy ground
765	*Schoenoplectus lacustris* (L.) Palla *	Co	He	1700	Margin of river
766	*Scirpoides holoschoenus* (L.) Soják	IT/M	He	1080-1770	Margin of river

	Iridaceae				
767	*Iris hymenospatha* B.Mathew & Wendelbo *	IT	Ge	1325-1900	Montane scrubs
768	*Iris songarica* Schrenk	IT	Ge	1543-2470	Montane scrubs, *Artemisia* steppes
	Ixioliriaceae				
769	*Ixiolirion tataricum* (Pall.) Schult. & Schult.f.	IT	Ge	1576-1805	In bed of valley, disturbed places
	Juncaceae				
770	*Juncus articulatus* L.	Co	He	1485	Margin of streams
771	*Juncus gerardii* Loisel. *	ES/IT	He	1700	Margin of streams
772	*Juncus inflexus* L. *	PL	He	1500-2220	Damp places
773	*Juncus rigidus* Desf. *	PL	He	1350	Damp places
	Liliaceae				
774	*Fritillaria gibbosa* Boiss. *	IT	Ge	1350	Montane scrubs, *Artemisia* steppes
775	*Gagea chomutovae* (Pascher) Pascher	IT	Ge	1378	Montane scrubs, *Artemisia* steppes
776	*Gagea circumplexa* Vved.	IT/M	Ge	1784	Montane scrubs
777	*Gagea confusa* A.Terr.	IT	Ge	1955-2680	Montane scrubs
778	*Gagea gageoides* (Zucc.) Vved.	IT	Ge	1894	Montane scrubs
779	*Gagea reticulata* (Pall.) Schult. & Schult.f.	IT	Ge	1055	Montane scrubs, *Artemisia* steppes
780	*Tulipa biebersteiniana* Schult. & Schult.f.	ES/M	Ge	1748-2907	Montane scrubs
781	*Tulipa biflora* Pall.	IT	Ge	1576-3123	Montane scrubs , wet ground around spring
782	*Tulipa clusiana* DC.	IT	Ge	2070	Montane scrubs
783	*Tulipa montana* Lindl. *	IT	Ge	1900	Montane scrubs
	Orchidaceae				
784	*Dactylorhiza umbrosa* (Kar. & Kir.) Nevski	IT	Ge	2100-2247	Montane scrubs, wet ground around spring
	Poaceae				
785	*Aegilops triuncialis* L.	IT/M	Th	1358-1716	Montane scrubs, *Artemisia* steppes
786	*Aeluropus lagopoides* (L.) Thwaites	IT/SS	He	803-1847	Dry part of salty wetland
787	*Aeluropus littoralis* (Gouan) Parl.	IT/M	He	780-1376	Muddy saline soils
788	*Agropyron cristatum* (L.) Gaertn.	ES/IT	He	2149-2168	Montane scrubs
789	*Avena sterilis* L.	ES/IT/M	Th	1011-1569	Montane scrubs, *Artemisia* steppes
790	*Boissiera squarrosa* (Sol.) Nevski	IT	Th	1269-2432	Montane scrubs, *Artemisia* steppes
791*	*Bromus brachystachys* Hornung	IT/M	Th	2064	Montane scrubs, *Artemisia* steppes
792	*Bromus danthoniae* Trin.	IT	Th	1391-2935	Montane scrubs, *Artemisia* steppes
793	*Bromus moeszii* Pénzes	IT	Th	1000	*Artemisia* streppes
794	*Bromus tectorum* L.	IT/M/SS	Th	879-2935	Montane scrubs , *Artemisia* steppes
795	*Bromus tomentellus* Boiss.	IT	He	1200-2168	Montane scrubs, *Artemisia* steppes
796	*Centropodia forsskalii* (Vahl) Cope	SS/IT	He	900	*Artemisia* steppes
797	*Cynodon dactylon* (L.) Pers.	Co	He	929-1561	Weed in Farmland
798	*Dactylis glomerata* L.	ES/IT/M	He	1700-2139	Margin of streams in gardens
799	*Digitaria sanguinalis* (L.) Scop.	Pantropic	Th	915	Weed in Farmland
800*	*Echinochloa colona* (L.) Link	IT/M	Th	929	Weed in Farmland
801	*Echinochloa crus-galli* (L.) P.Beauv.	PL	Th	929-1680	Weed in Farmland
802*	*Enneapogon persicus* Boiss.	IT	He	981-1342	*Artemisia* steppe
803	*Eremopyrum bonaepartis* (Spreng.) Nevski	IT	Th	889-1065	*Artemisia* steppe
804	*Eremopyrum distans* (K.Koch) Nevski *	IT	Th	1900-2100	Montane scrubs
805	*Heteranthelium piliferum* (Sol.) Hochst. ex Jaub. & Spach	IT	Th	1710	Montane scrubs, *Artemisia* steppes
806	*Hordeum bulbosum* L.	IT/M	He	1698	Montane scrubs
807*	*Hordeum marinum* Huds.	ES/IT/M	Th	877-1049	Weed in gardens
808	*Hordeum murinum* L. *	M/IT/ES	Th	1080-2030	Weed in gardens
809	*Hordeum spontaneum* K.Koch *	IT/M	Th	1310	Montane scrubs, *Artemisia* steppes
810	*Imperata cylindrica* (L.) Raeusch. *	PL	He	960	
811	*Loliolum subulatum* (Banks & Sol.) Eig	IT	Th	1080-1269	Montane scrubs, *Artemisia* steppes
812*	*Lolium rigidum* Gaudin	M/IT	Th	1748-1955	Weed in garden
813	*Melica persica* Kunth	IT	He	985-2380	Montane scrubs, *Artemisia* steppes
814	*Pennisetum orientale* Rich.	SS, Trop. Afr.	He	981-1900	Montane scrubs, *Artemisia* steppes
815	*Phalaris minor* Retz.	IT/M	Th	1083-1175	Weed in gardens
816	*Phragmites australis* (Cav.) Trin. ex Steud.	PL	He	1060-2554	In river and wetland
817	*Poa bulbosa* L.	ES/IT/M	Ge	967-2686	Montane scrubs, *Artemisia* steppes
818*	*Poa pratensis* L.	IT	Ge	1577	Montane scrubs
819	*Polypogon monspeliensis* (L.) Desf.	IT/M	Th	896	in salty wetland
820*	*Polypogon viridis* (Gouan) Breistr.	PL	Th	1383	
821	*Psathyrostachys fragilis* (Boiss.) Nevski	IT	He	1362	Montane scrubs
822	*Schismus arabicus* Nees	IT/M/SS	Th	818-1269	*Artemisia* steppes

823*	*Setaria verticillata* (L.) P.Beauv.	ES/M	Th	929	Weed in farmlands
824*	*Setaria viridis* (L.) P.Beauv.	ES/IT/M	Th	929-1955	Weed in farmlands
825*	*Sorghum halepense* (L.) Pers.	PL	He	945	Weed in farmlands
826*	*Stipa capensis* Thunb.	M/IT/SS	Th	1065	*Artemisia* steppes
827*	*Stipa lessingiana* Trin. & Rupr.	ES/IT	He	1206-1281	*Artemisia* steppes
828	*Stipa pennata* L. *	ES/IT	He	1500	*Artemisia* steppes
829	*Stipagrostis plumosa* Munro ex T.Anderson	PL	He	1500-1792	Montane scrubs
830	*Taeniatherum caput-medusae* (L.) Nevski	ES/IT/M	Th	1347-2323	Montane scrubs
831	*Vulpia persica* (Boiss. & Buhse) Krecz. & Bobrov	IT	Th	1080-1560	Montane scrubs
	Potamogetonaceae				
832	*Zannichellia palustris* L.	Co	Ge	847	Saline or brackish waters
	Ruppiaceae				
833	*Ruppia maritima* L.	Co	Ge	807	Saline marshes, saline springs
	Typhaceae				
834*	*Typha domingensis* Pers.	PL	He	1504	Streamside
	Gymnospermae				
	Ephedraceae				
835	*Ephedra intermedia* Schrenk ex C.A.Mey. *	IT	Ph	1170	Montane scrubs
836	*Ephedra major* Host	IT	Ph	900-1920	Montane scrubs
837	*Ephedra pachyclada* Boiss.	IT/SS	Ph	1881	Montane scrubs
838	*Ephedra sarcocarpa* Aitch. & Hemsl.	IT	Ch	1055-1090	*Artemisia* steppes
	Pteridophyta				
	Equisetaceae				
839	*Equisetum ramosissimum* Desf.	PL	Ge	1819-2247	In wet ground around spring
	Pteridaceae				
840*	*Adiantum capillus-veneris* L.	ES/IT/M	Ge	1224	In wet wall of valley
841*	*Cheilanthes acrostica* (Balbis) Tod.	M	Ge	1011	In crevices of stone, on N slope

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