

Floristic and ecological diversity of ethnobotanical resources used in western Granada (Spain) and their conservation

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Abstract. - This paper analyses the floristic and ecological plant diversity traditionally used in the western part of Granada Province (Andalusia, Spain). The results have been analysed in relation to the total flora of the territory and according to the ecological diversity of the taxa and their habitats. The protection, conservation, management, and legal protection of these taxa to date have been also analysed, discussing the implications that their collection may involve for the development of natural populations and the conservation of their habitat.

Key words : ethnobotany - floristic diversity - ecological diversity - conservation of ethnobotanical resources.

Résumé. - Cet article analyse la diversité floristique et écologique des plantes ayant des emplois traditionnels dans la région à l'ouest de Grenade (Andalousie, Espagne). Les résultats ont été analysés par rapport à la flore totale du territoire et en tenant compte de la diversité écologique des taxons et de leurs habitats. En ce qui concerne la protection et la conservation de ces taxons, sont également analysées les mesures de gestion et de protection juridiques qui ont été élaborées jusqu'à maintenant, en commentant les conséquences de la collecte pour le bon développement des populations naturelles et la conservation des habitats.

Mots clés : ethnobotanique - diversité floristique - diversité écologique - conservation des ressources ethnobotaniques.

I. INTRODUCTION

During an ethnobotanical study in the west of Granada Province (Benítez, 2007, 2009), ethnobotanical data were gathered for 449 taxa. Among these, 380 species were traditionally used for different uses; the rest we know only by their vernacular name. This paper focuses on the floristic and ecological diversity of these floristic resources, with comments on their conservation. The ethnobotanical catalogue includes plant descriptions and traditional uses in the study area, listed and discussed in Benítez (2009) both from an ethnobotanical and pharmacological standpoint. Local uses are discussed here only in a few notable cases.

The area (2041.8 km²) includes 16 municipalities in western Granada (Fig. 1). Lying in the Baetic Cordillera, this area is surrounded by several mountain ranges such as Sierra de Tejeda y Almijara (2,065 m), Sierra de Loja (1671 m), and Sierra Parapanda (1604 m), with a plain area flanking the River Genil.

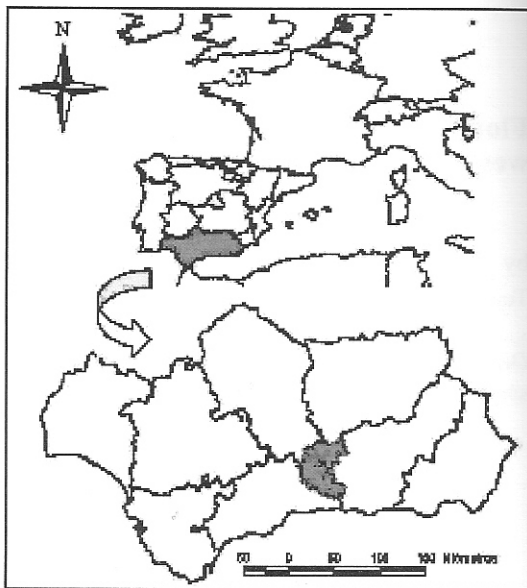


Fig. 1. Study area.

Fig. 1. Zone d'étude.

II. METHODS

This study includes the following tasks: to identify the species known by the local population; to list and discuss traditional plant uses, local management and vernacular names; to identify the species taxonomically and to collect samples (voucher specimens) to store in an herbarium; and to analyse popular applications, their level of use, and current validity, comparing the results with different sources, both ethnobotanical and medical/pharmaceutical.

To find persons with this knowledge, we developed a survey system distributed in public schools, pharmacies and environmental agents in the area. Data collection used standard ethnobotanical techniques such as open and semi-structured interviews (Cotton, 1996; Martin, 2004) with a total of 279 interviewees, mostly in the countryside in order to complement the interviews with plant collection. For publishing data, prior informed consent was verbally obtained before commencing the interviews. With the material collected, we compiled an exsiccata, which is the first in the field of Iberian ethnobotany (Benítez *et al.*, 2009a). The identification of species and their different families followed Castroviejo *et al.* (1986-2005), Valdés *et al.* (1987) and Tutin *et al.* (1964-1980).

III. RESULTS AND DISCUSSION

Uses of the 380 ethnobotanical taxa (listed in Table III) were classified into 28 different categories, including medical, veterinary, food-nutrition, animal feed, handicrafts, ornamental, cultural or religious manifestations, fuel, etc. The 18 most important categories are shown in the table. A total of 4310 references was collected for a total of 1612 uses, most (52%) being medicinal, the average rising to 56% when we added in the veterinary medicinal uses.

A. Floristic diversity

The 380 taxa belong to 82 different botanical families, including one green algal species, *Spirogyra* sp. (Zygnemataceae) and two bryophytes, (*Leucodon sciuroides* (Hedw.) Schwaegr. (Leucodontaceae) and *Cratoneuron commutatum* (Hedw.) G. Roth (Amblystegiaceae). Each family contribution to the ethnofloristic catalogue was uneven, as shown in Figure 2, with eight families providing more than 50% of species: Asteraceae (52 species), Lamiaceae (32), Poaceae (29), Fabaceae (28), Apiaceae (18), Rosaceae (17), Liliaceae (13) and Solanaceae (11).

For the floristic diversity of the ethnoflora to be compared to the total vascular species represented in the region, a floristic catalogue of the study area had been developed (Benitez, 2009), reviewing and analysing several monographs on flora and vegetation of the three mountain areas studied: Tejeda y Almijara (Laza, 1946; Nieto, 1988; Cabezudo *et al.*, 2005), Sierra de Loja (Marin, 1979) and Parapanda (Aroza, 1990) and the entire area (Valle *et al.*, 2001). The catalogue has been increased by our field work to include 1345 vascular plant taxa, belonging to 96 botanical families. Based on this catalogue, we have defined the best represented families in the area: Asteraceae, Poaceae, Fabaceae, and Apiaceae (Table I).

Analysing both catalogues, we find the five main families of ethnoflora (Asteraceae, Lamiaceae, Poaceae, Fabaceae and Apiaceae) are among the top ten families in number of species in the study area. However, this analysis does not include allochthonous plants

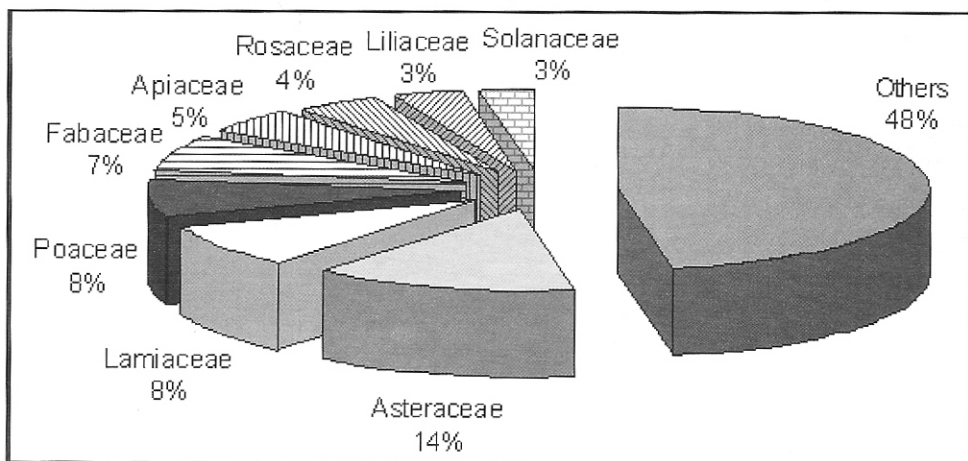


Fig. 2.- Most used plant families in the study area.

Fig. 2.- Principales familles de plantes utilisées dans la zone d'étude.

with popular uses, cultivated or introduced, that did not appear in the floristic catalogue. The relationship between useful flora and non-useful native flora in the main botanical families of the study area is shown in Figure 3.

Analyses of the information on traditional uses included in the catalogue indicate that the relevance of Asteraceae in the ethnoflora is partly due to the high number of species that serve as food (33 of the 52 species used as food or for cooking). The family Lamiaceae is a notable case: although not being in the first place in the floristic catalogue (sixth, with 80 species), this family ranks second in the list of useful plant families. This is because several species of this family dominate widely distributed plant communities, forming frequent and dense populations with striking flower colours and aromatic fragrances. In addition to, this family has great importance for medicinal uses (25 of the 32 listed here were used for this purpose). Poaceae is the family that provides the most fodder plants, and include more species than other families such as Fabaceae and Apiaceae.

Knowing the flora of the study area, we can deduce the ethnobotanical index proposed by Portères (1970), established by multiplying the number of useful species in the area by 100 and dividing by the total species present. This index expresses the ethnobotanical richness of an area and the knowledge level of a society concerning the local flora (Mesa, 1996).

The 1345 species from the floristic catalogue, compared to the 377 vascular plant species recorded in the present work (the floristic catalogue does not include bryophytes or algae), we get an index value of 28%. At the family level, however, the rate of ethnobotany of the study area is 82% (79 families used of the 96 total). Comparing the results with other works, we find that in nearby Andalusian areas values are similar: Cazorla 29.53%

Table 1.- Best represented plant families in the area.

Tableau 1.- Familles de plantes les mieux représentées dans la région.

Family	sp.	%
Asteraceae	171	12.71
Poaceae	131	9.74
Fabaceae	123	9.14
Caryophyllaceae	82	6.10
Brassicaceae	74	5.50
Lamiaceae	70	5.20
Scrophulariaceae	61	4.54
Apiaceae	44	3.27
Liliaceae	37	2.75
Cistaceae	36	2.68
Boraginaceae	30	2.23
Rosaceae	28	2.08
Rest of families	458	34.05

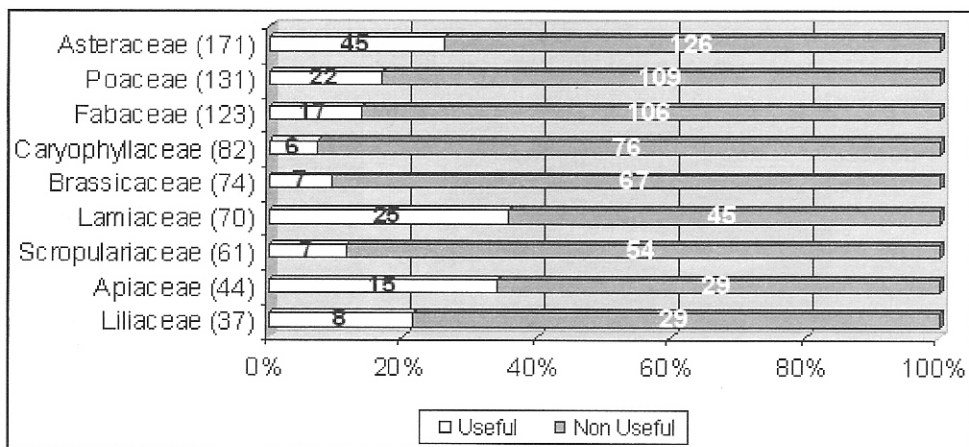


Fig. 3.- Proportion of useful and non-useful native flora in main botanical families.

Fig. 3.- Proportion de la flore autochtone utile et de la flore non utile selon les principales familles botaniques.

(Fernández Ocaña, 2000) and Cabo de Gata 25.3% (Martínez Lirola *et al.*, 1997). Papers focusing on larger areas, for example at the province level, report lower values, as the number of total flora is considerably higher (8.8% Córdoba, Castellón 17.2%, Huesca 22%; Casana Martínez, 1993; Galán Soldevilla, 1993; Mulet, 1991; Villar *et al.*, 1992).

B. Ecological diversity

Of the 380 species listed in the catalogue, 273 (72%) are native to this area while 107 (28%) are allochthonous strictly to the area of western Granada, although some, such as *Chamaerops humilis*, *Populus nigra* or *Glycyrrhiza glabra*, are natural in the surrounding areas and others such as *Bidens aurea*, *Agave americana*, *Arundo donax* or *Spartium junceum* have naturalized and form part of the current landscape and vegetation (see Table III).

Most of the resources used in the area come exclusively from the field collection (328 plants, 84%), while only 14 plants (4%) are purchased in health-food shops or stores. However, 47 of them (12%) can be obtained both ways, some for not being frequent in the area and, despite being natural, are grown to avoid shortages (*e.g.* *Matricaria chamomilla*, *Mentha pulegium* and *Origanum virens*). Others, still being frequently cultivated, are also available in markets such as *Valeriana officinalis*, *Aloe vera*, *Ocimum basilicum* or *Tilia platyphyllos*.

Biological spectrum

Taking the classical biotype classification from Raunkiaer (1934), we analysed the biological spectrum of our ethnobotanical resources. The group with the highest average representation were hemicryptophytes (24.2%), followed by therophytes (23.7 %), phanerophytes (21.3%), chamaephytes (15%), and nanophanerophytes (8.4%). This shows that annuals, biennials or perennials plants are collected quite evenly, showing no preference for any of the biological types. Apart from the therophytes, hemicryptophytes, phanerophytes, nanophanerophytes, and chamaephytes, their high average might be because they are resources that remain or develop periodically in the same places. Thus, their location and collection are easier. Also in the last three cases the biomass present is much more plentiful and the harvesting period can be significantly higher.

Biogeographical spectrum

Analysing the distribution of the ethnobotanical floristic resources (Fig. 4), chorology shows a large group of taxa included as Mediterranean elements *sensu lato*, following the criteria of Rivas-Martínez (2007), including late-Mediterranean and circum-Mediterranean ones, *i.e.* plants distributed around the Mediterranean, although some may reach the Middle East, Central Europe or Macaronesia. Another major group are widely distributed plants, including plants which are present in two different biogeographic regions, two continents or which are cosmopolitan.

A total of 43 species (11.3% of the ethnobotanical catalogue) have a small distribution according to Castroviejo *et al.* (1986-2005), Valdés *et al.* (1987), Rivas Martínez *et al.* (1991) and Melendo *et al.* (2004). Most of these are Iberian-North African (6.5%, 25 species; Table III), but the endemic Iberian (2.3%), Baetic species (1.8 %), or those from the southern Iberian Peninsula (2 species) are also important.

Relationship between endemic plants used by the human population and non-endemic ones is shown by the phyto-ethno-endemicity index, which can report the singularity in plant use vs. the level of population isolation (Mesa, 1996). Calculated by multiplying the

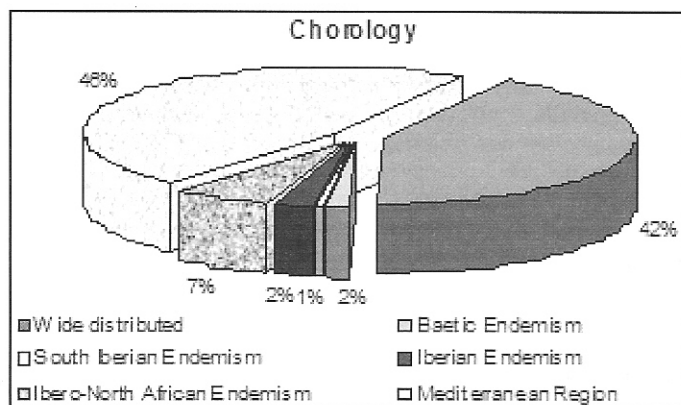


Fig. 4.- Distribution of the ethnobotanical resources.

Fig 4.- Distribution des ressources ethnobotaniques.

number of endemic plants used in this area (43) by 100 and dividing by the total number of species of ethnoflora, this index reaches 11.31% for our territory.

Habitats analysis

For the analysis of the ecology of the taxa, we evaluated the phytosociological category which fits each taxon. Many of the plants are characteristic to some syntaxa in the territory, according to Rivas-Martínez (2002). For species not characteristic of any of them, we determined their most common environmental behaviour in our area. Syntaxonomical analysis was performed at class level and also taking into account large vegetation groups in order to establish the ecosystems which provide more plant resources to the inhabitants.

A total of 269 taxa of the ethnobotanical catalogue were characterized in 30 different phytosociological classes, of which the top 16 are shown in Figure 5. Not all the species have been characterized because the catalogue includes non-vascular species, both autoch-

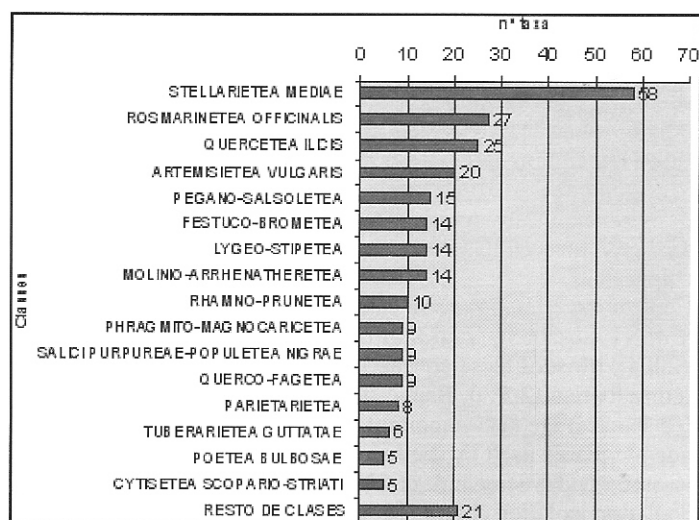


Fig. 5.- Most common phytosociological classes that contain plant resources.

Fig. 5.- Principales clases fytosociológicas abritant des plantes utiles.

thonous and allochthonous cultivated plants (like *Sorbus domestica* or *Vitis vinifera*) and parasitic ones (*Orobancha crenata*).

The three main classes with useful plants are *Stellarietea mediae* Tüxen, Lohmeyer & Preisig ex von Rochow 1951 (that represents areas with ruderal nitrophilous and seminitrophilous communities of ephemeral annual herbs), *Rosmarinetea officinalis* Rivas-Martínez *et al.* 2002 (small shrubs communities that appear as a result of the potential vegetation destruction) and *Quercetea ilicis* Br.-Bl. ex A. & O. Bolòs 1950 (natural and sclerophyllous forest communities or semi-deciduous scrub, and scrub climax vegetation or serial stages). It is not surprising that these three classes are geographically very well distributed in our study area.

For a better analysis with fewer categories, the results are grouped in broad groups of vegetation, as shown in Figure 6. This figure highlights the large percentage (37%) of plants collected from synanthropic vegetation zones, modified by human activity, including *Stellarietea mediae* and *Artemisietea vulgaris* Lohmeyer, Preisig & Tüxen ex von Rochow 1951, and formed by nitrophilous annual or perennial herbs, mostly in ruderal environments. Within this category, there are also a few plants included from megaphorbia and fringe communities (a total of 5 species in three different classes). This finding reinforces the common idea that a large group of useful plants (mostly medicinal and edible) grow nearby, easily accessible inhabited areas. Examples include thistles within *Artemisietea vulgaris* (*Cynara cardunculus*, *C. humilis*, *Silybum marianum*, *Carduus platypus* subsp. *granatensis*, *Onopordum nervosum* or *Eryngium campestre*), species with a high number of references for their uses, or the high number of annual nitrophilous herbs of *Stellarietea mediae*, used mostly as food such as *Allium ampeloprasum*, *Anchusa azurea*, *Bifora testiculata*, *Crepis vesicaria* subsp. *haenseleri*, *Leontodon longirostris*, *Malva sylvestris*, *Ridolfia segetum*, *Scandix pecten-veneris* or *Urtica urens*.

Secondly, there are grassland and meadow vegetation (20%), mainly from synanthropic mesophytic or xerophytic grassland communities included in *Festuco-Brometea* Br.-Bl. & Tüxen ex Br.-Bl. 1949, from basophilous communities of tall grasses, *Lygeo-Stipetea* Rivas-Martínez 1978 and from more or less wet anthropogenic grasslands of *Molinio-Arrhenatheretea* Tüxen 1937. It bears mentioning that these are places often visited by far-

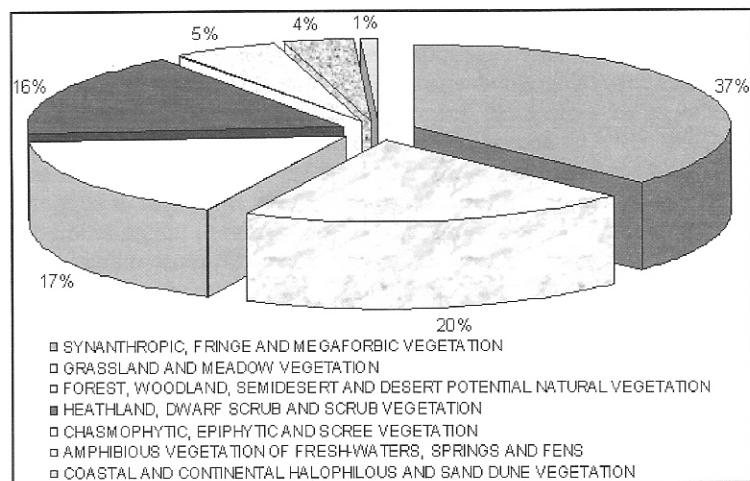


Fig. 6.- Broad groups of vegetation where resources are collected.

Fig. 6.- Grandes unités de végétation où les ressources sont recueillies.

mers, shepherds, and other people connected with the environment, who are currently the main groups that know plant resources, as we have confirmed during this work. We noted some plants with a high number of records such as *Mantisalca salmantica*, *Centaureum erythraea* or *Tragopogon crocifolius* in *Festuco-Brometea*, *Asphodelus albus* or *Bituminaria bituminosa* in *Lygeo-Stipetea*, and *Cynodon dactylon* or *Scirpoides holoschoenus* in *Molinio-Arrhenatheretea*.

Of the plants listed, 17% inhabit forest areas with potential forest or preforest vegetation. Therefore, in this area, a high proportion of plant resources come from well-preserved natural environments. There are abundant plants included in *Quercetea ilicis* coming from oak forests and their serial degradation stages as Mediterranean brush and scrub vegetation, partly due to the good geographical representation (with plants such as *Quercus rotundifolia*, *Q. coccifera*, *Bupleurum gibraltaricum* or *Olea europaea* var. *sylvestris*). *Quercu-Fagetea* Br.-Bl. & Vlieger in Vlieger 1937 is another potential vegetation class, well represented according to the syntaxonomical classification of the ethnoflora, but very poorly distributed in our study area. The high number of plants belonging to this class reflects the high popular interest in wet and deciduous forest environments, which are ecosystems in clear regression in the southern Iberian Peninsula, as in the cases of *Acer granatense*, *Quercus pyrenaica* or *Q. faginea* forests. This popular interest is also high to riparian forest ecosystems included in *Salici purpureae-Populetea nigrae* (Rivas-Martínez & Cantó ex Rivas-Martínez, Bäscones, TE Díaz, Fernández-González & Loidi 1991) Rivas-Martínez & Cantó 2002, where people collect *Salix* and *Populus* species as well as *Equisetum telmateia*, *Celtis australis* and others. These three phytosociological classes probably represent the natural vegetation that is most in conflict with human activities, undergoing deforestation, fires, land-use changes, increasing agricultural, water pollution, etc.

Plants from preforestal vegetation collected in areas with serial degradation stages of the potential forest, including heaths, dwarf-scrub thickets, and scrubby vegetation are well represented (16%). These areas are particularly rich in species of the ethnobotanic catalogue the class *Rosmarinetea officinalis*, which includes aromatic and medicinal shrubs that grow on limestone such as rosemary, thyme (*Thymus zygis* subsp. *gracilis*, *T. orospedamus*), lavender (*Lavandula latifolia*, *L. lanata*), sage (*Salvia lavandulifolia* subsp. *vellearea*), etc. Included are communities that occupy a large part of the study area, with traditional and historical uses strongly linked to the local culture. Thorny deciduous plants from forest fringes of *Rhamno-Prunetea* Rivas-Goday & Borja ex Tüxen 1962 can also be found. Many of these offer edible fruits, wood, and other resources frequently used.

Plants from rock-dwelling communities (5%) show less interest for the local collectors; species include plants from more or less nitrified rock walls of *Parietarietea* Rivas-Martínez in Rivas Goday 1964, common in residential areas. The same lower interest can be applied to aquatic plants (4%), communities from fountains and the edges of streams, these being more difficult to locate and more inaccessible. Among them, the most important class is *Phragmito-Magnocaricetea* Klika in Klika & Novák 1941, represented in the catalogue with reeds and higrophyllous herbaceous plants. Finally, the under-represented group of plants in the catalogue (1%) are those that are collected in salt-rich environments.

Ethnobotanical resources conservation

The increasing concern for the conservation of the flora, as embodied in efforts of the I.U.C.N., international, national, and regional governments (European Union, Red Books, C.B.D.), are also aimed towards conserving traditionally useful flora as cultural-heritage

conservation. The conservation effort should be unified in these two ways: both the genetic heritage of a resource, and cultural heritage concerning its use (UNESCO, 2003). As Schultes (1994) said: « *ethnobotanical conservation must be placed near the top of conservation priorities* ».

Firstly, a search of Spanish literature shows that none of the local ethnobotanical resources have any status of threatened or endangered species. They are not included in either the Red List (VV.AA., 2000; Moreno, 2008) or Atlas and Red Book (Bañares *et al.*, 2004) or its extensions (Bañares *et al.*, 2007), and therefore are not protected in national legislation.

However, at regional level, eight of them present some risk factor and are listed into the *Catálogo Andaluz de Especies Silvestres Amenazadas* (Decree 104/1994, B.O.J.A. 14/VII/1994), being protected by regional law (Law 8/2003). These are *Taxus baccata* (endangered), *Laurus nobilis*, *Prunus avium*, *P. mahaleb*, *Sorbus aria* (threatened) and three listed as « lower interest »: *Acer granatense*, *Celtis australis* and *Quercus pyrenaica*, also listed as threatened in the Red Book (Blanca *et al.*, 1999-2000).

Moreover, the Order of 2 June 1997 (BOJA 71/1997 of 21 June) regulates the collection of 18 of them: *Acinos alpinus*, *Arbutus unedo*, *Crataegus monogyna*, *Chamaerops humilis*, *Hellichrysium italicum* subsp. *serotinum*, *H. stoechas*, *Lavandula lanata*, *L. latifolia*, *L. stoechas*, *Pistacia lentiscus*, *Rosmarinus officinalis*, *Salvia lavandulifolia* subsp. *vellerea*, *Santolina chamaecyparissus* subsp. *squarrosa*, *Satureja obovata*, *Smilax aspera*, *Teucrium lusitanicum*, *Thymbra capitata*, *Thymus mastichina*.

Regarding European regulations, we briefly the analysed implications of the Habitats Directive (92/43/EEC of 21 May 1992, on the conservation of natural habitats and of wild fauna and flora) for the flora included in the ethnobotanical catalogue and their habitats. From an examination of Appendices II, IV and V, we conclude that none of the ethnobotanical resources in the study area are considered to be of Community Interest, either for the designation of habitat for conservation, strictly for protection, or for the introduction of management measures for exploitation. Spain has at least 95 plant species included in Appendix II (Dominguez *et al.*, 1996). However, in Appendix I, concerning habitat with priority interest, there are some habitats where certain locally collected species can be found, thus inducing a slight alteration of these protected habitats, as seen in Table II.

Among the priority habitat type for the Council Directive, there is the pseudo-steppe vegetation with grasses and annuals of the *Thero-Brachypodietea* Br.-Bl. ex A. & O. Bolòs 1950 (syn. *Lygeo-Stipetetea* Rivas-Martínez 1978), where we find emblematic plants for the local culture such as *Stipa tenacissima* (characteristic of the alliance *Stipion tenacissimae* Rivas-Martínez ex Alcaraz 1984 and used mainly in human and veterinary medicine and for crafts) or *Bituminaria bituminosa* (characteristic of the class and also medicinal, for healing wounds) and up to 14 ethnofloristic taxa.

Mediterranean *Taxus baccata* forests are also priorities, a tree that has been used mainly in the region to make farming and livestock tools and other implements. This tree, also protected by the Andalusian legislation as stated above, has long been under intense pressure due to the quality of its timber. Its abundance in the study area was surely much higher, as evidenced by the phyto-toponymous of Sierra de Tejeda (tejo being yew in Spanish), the natural border between Malaga and Granada Provinces. Botanists who early prospected the mountain reported the scarcity of this species (Boissier, 1839-1845, Laza, 1946) as we have recently discussed (Benitez *et al.*, 2009b).

Juniperus shrubs deserve special mention, some species preserved as priority habitats. In the case of *Juniperus oxycedrus* subsp. *oxycedrus*, which has traditionally been harves-

Table II.- Habitats present in Appendix I of the Habitats Directive (and code) where some plants with an ethnobotanical interest can be collected.

Tableau II.- Habitats de l'annexe I de la directive Habitats (et code) où les plantes d'intérêt ethnobotanique peuvent être collectées.

Habitats	Cód.	n° sp.	species
Halo-nitrophilous scrubs (<i>Pegano-Salsolitea</i>)	1430	15	see Table III
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	3130	1	<i>Mentha pulegium</i>
Arborescent matorral with <i>Juniperus</i> spp.	5210	2	<i>Juniperus oxycedrus</i> , <i>J. communis</i>
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)	6210	14	see Table III
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)	6220	14	see Table III (<i>Lygeo-Stipetea</i>)
Dehesas with evergreen <i>Quercus</i> spp.	6310	4	<i>Quercus rotundifolia</i> , <i>Q. suber</i> , <i>Q. pyrenaica</i> , <i>Q. coccifera</i>
Mediterranean tall humid grasslands of the <i>Molinio-Holoschoenion</i>	6420	1	<i>Sonchus maritimus</i> subsp. <i>aquatilis</i>
Calcareous and calcschist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	8120	2	<i>Andryala ragusina</i> , <i>Lactuca tenerrima</i>
Calcareous rocky slopes with chasmophytic vegetation	8210	14	see Table III (<i>Adiantetea</i> , <i>Asplenietea trichomanis</i> , <i>Parietarietea</i> , <i>Phagnalo Rumicetea</i> , <i>Thlaspietea rotundifolii</i>).
<i>Quercus faginea</i> and <i>Q. canariensis</i> Iberian woods	9240	2	<i>Quercus faginea</i>
<i>Castanea sativa</i> woods	9260	1	<i>Castanea sativa</i>
<i>Salix alba</i> and <i>Populus alba</i> galleries	92A0	2	<i>Salix alba</i> , <i>Populus alba</i>
Southern riparian galleries and thickets (<i>Nerio-Tamaricetea</i> and <i>Securinegion tinctoriae</i>)	92D0	1	<i>Nerium oleander</i>
<i>Quercus suber</i> forests	9330	1	<i>Quercus suber</i>
<i>Quercus ilex</i> and <i>Q. rotundifolia</i> forests	9340	1	<i>Quercus rotundifolia</i>
* Mediterranean <i>Taxus baccata</i> woods	9580	1	<i>Taxus baccata</i>
TOTAL		74	

ted for the manufacture of its resin (called miera) by distillation of its branches, intense and prolonged harvest in areas close to the ancient resin furnaces has resulted in a lack of this plant. This occurred in the Sierra de Loja, where there is evidence of the past presence of one of these furnaces (bundle 68, document 5 of the Historical Archive of Loja, titled: *Autos fechos en virtud de carta de instrucción del Consejo sobre el plantío de los montes i conservación dellos y acoto de tierras para que se crien, año de 1625*). Today, there are no specimens of the species on this mountain, and it is missing from the floristic catalogue (Marín, 1978), though present in surrounding areas.

According to the cartographic base of the Habitat Directive in the study area, a total of 70 syntaxa representing different habitats covered by the directive are present in the study area (M.M.A., 2003 and unpublished works). Grouping the syntaxa according to the habitats included in the directive (Table II), we find that 16 of them have species with ethnobotanical interest, a total of 74 plants with traditional uses. This signifies that the habitats, being visited by plant collectors searching for resources can be probably damaged, but they are also covered by the Directive 92/43/EEC.

IV. CONCLUSIONS

Within the 380 plants with ethnobotanical interest in the study area, the families Asteraceae and Lamiaceae proved the most important, followed by others such as Poaceae and Fabaceae. In general, the main plant families used are the best represented ones in the area, although some families have a greater relative importance in comparison to the total species present in the area and those traditionally employed.

No preference for the collection of plants of a particular biological type was detected. Moreover, it was found that endemism is an important factor not only in the flora of southern Spain, but also in reference to its ethnoflora.

Most of the ethnobotanical resources were collected in anthropically influenced environments, usually in nitrophilous or subnitrophilous plant communities. It is also important that many aromatic shrubs are collected in serial vegetation communities and in climatic forest communities.

Some ethnobotanical resources have restrictions on their collection: either the taxa are threatened, or the collection is regulated at regional level. Moreover their habitats may be included in the Habitats Directive, and can be influenced by collections. In our study area, at least 74 of the 273 native taxa of the territory can be collected in 16 different habitats types covered by Directive 92/43/EEC.

REFERENCES

- Aroza M.P., 1990.- *Flora y vegetación de las sierras de Parapanda, Pelada, Madrid y Obeilar*. Tesis doctoral, Universidad de Granada.
- Bañares A., G. Blanca, J. Güemes, J.C. Moreno & S. Ortiz (eds.), 2004.- *Atlas y Libro Rojo de la Flora Vascular Amenazada de España. Taxones Prioritarios*. Dirección General de Conservación de la Naturaleza, Madrid, 1069 p.
- Bañares A., G. Blanca, J. Güemes, J.C. Moreno & S. Ortiz (eds.), 2007.- *Atlas y Libro Rojo de la Flora Vascular Amenazada de España. Adenda 2006*. Dirección General de Medio Natural y Política Forestal (Ministerio de Medio Ambiente, y Medio Rural y Marino)-Sociedad Española de Biología de la Conservación de Plantas, Madrid, 92 p.
- Benítez G., 2007.- *El uso de las plantas a través de la cultura tradicional lojeña. Una perspectiva etnobotánica*. Fundación Ibn al-Jatib de Estudios de Cooperación Cultural, Granada, 374 p.
- Benítez G., 2009.- *Etnobotánica y etnobiología del Poniente Granadino*. Tesis Doctoral. Universidad de Granada, 756 p.
- Benítez G., M.R. González-Tejero & L. Baena, 2009a.- Primeras exsiccata de flora etnobotánica en el ámbito ibero-macaronésico (herbario GDA). *Boletín A.H.I.M.*, 11, 34-36.
- Benítez Cruz G., M.R. González-Tejero & J. Molero Mesa, 2009b.- Fitotopónimos y sinfitotopónimos del Poniente Granadino. *Rev. Dialect. Tradic. Populares*, LXIV (2), 201-224.
- Blanca G., B. Cabezero, J.E. Hernández-Bermejo, C.M. Herrera, J. Muñoz & B. Valdés (eds.), 1999-2000.- *Libro Rojo de la flora amenazada de Andalucía*. 2 vols. Consejería de Medio Ambiente, Junta de Andalucía, Sevilla.
- Boissier E., 1839-1845.- *Voyage botanique dans le midi de l'Espagne pendant l'année 1837*. 2 vols, Paris.
- Cabezudo B., A.V. Pérez-Latorre, D. Navas Fernández, O. Gavira & G. Caballero, 2005.- Contribución al conocimiento de la flora del Parque Natural de las sierras de Tejeda, Almijara y Alhama (Granada-Málaga, España). *Acta Bot. Malac.*, 30, 55-110.
- Casana Martínez E., 1993.- *El patrimonio etnobotánico en la provincia de Córdoba: Campiña, Subbética y Vega del Guadalquivir*. Tesis doctora, Universidad de Córdoba.
- Castroviejo S. et al. (eds.), 1986-2005.- *Flora Ibérica*, I-VII, XIV, XXI. Real Jardín Botánico de Madrid. C.S.I.C.
- Cotton C., 1996.- *Ethnobotany. Principles and applications*. Chichester, UK, Wiley & Sons.
- Dominguez F., D. Galicia, L. Moreno-Rivero, J.C. Moreno-Saiz & H. Sainz-Ollero, 1996.- Threatened plants in Peninsular and Balearic Spain: a report based on the EU Habitats Directive. *Biol. Conserv.*, 76, 123-133.
- Fernández Ocaña A. M., 2000.- *Estudio etnobotánico en el Parque Natural de las Sierras de Cazorla, Segura y Las Villas. Investigación química de un grupo de especies interesantes*. Tesis doctoral, Universidad de Jaén.
- Galán Soldevilla R., 1993.- *El patrimonio etnobotánico en la provincia de Córdoba: Pedroches, Sierra norte y*

- Vega del Guadalquivir. Tesis doctoral, Universidad de Córdoba.
- Laza M., 1946.- Estudios sobre la flora y la vegetación de las Sierras Tejeda y Almijara. *Anales Inst. Bot. Cavanilles*, **6** (2), 217-370.
- M.M.A. (Ministerio de Medio Ambiente), 2003.- Atlas y manual de los Hábitat de España. Dirección General de Conservación de la Naturaleza. Madrid, 492 p.
- Marín G., 1979.- *Estudio florístico y Fitosociológico de la Sierra de Loja*. Tesis doctoral, Universidad de Granada.
- Martin G.J., 2004.- *Ethnobotany. A methods manual. People and plants conservation series*. WWF, Earthscan Publications, U.K.
- Martínez Lirola M.J., M.R. González-Tejero García & J. Molero Mesa, 1997.- *Investigaciones etnobotánicas en el parque natural de Cabo de Gata-Níjar (Almería)*. Ed. Sociedad almeriense de historia natural y Conserjería de Medio Ambiente de la Junta de Andalucía.
- Melendo M., E. Giménez, E. Cano, F. Gómez-Mercado & F. Valle, 2004.- The endemic flora in the south of the Iberian Peninsula: taxonomic composition, biological spectrum, pollination, reproductive mode and dispersal. *Flora*, **198**, 260-276.
- Mesa S., 1996.- Algunos elementos para el análisis numérico de los datos en etnobotánica. *Monogr. Jardín Bot. Córdoba*, **3**, 69-73.
- Moreno J.C., (coord.), 2008.- *Lista Roja 2008 de la flora vascular española*. Dirección General de Medio Natural y Política Forestal (Ministerio de Medio Ambiente, Medio Rural y Marino y Sociedad Española de Biología de la Conservación de Plantas), Madrid, 86 p.
- Mulet L., 1991.- *Estudio etnobotánico de la provincia de Castellón*. Diputación de Castellón.
- Nieto J. M., 1988.- *Estudio fitocenológico de las sierras de Tejeda y Almijara (Málaga y Granada)*. Tesis doctoral, Universidad de Málaga.
- Portères R., 1970.- *Cours d'ethnobotanique et ethnozoologie (1969-1970)*. I - Ethnobotanique générale. Muséum national d'histoire naturelle (Laboratoire d'ethnobotanique et ethnozoologie), Faculté des Lettres, Paris.
- Raunkiaer O., 1934.- *The life forms of the plants and statistical plant geography*. Clarendon Press, Oxford.
- Rivas- Martínez S., 2002.- High syntax of Spain and Portugal and their characteristic species. *Itin. Geobot.*, **15**, 434-922.
- Rivas-Martínez S., 2007.- Mapa de series, geoseries y geopermaseries y de vegetación de España (memoria del mapa de vegetación de España). *Itin. Geobot.*, **17**, 5-435.
- Rivas-Martínez S., A. Asensi, J. Molero-Mesa & F. Valle, 1991.- Endemismos vasculares de Andalucía. *Givasgodaya*, **6**, 5-76.
- Schultes R.E., 1994.- The importance of ethnobotany in environmental conservation. *Amer. J. Econ. Sociol.*, **53** (2), 202-206.
- Tutin T.G., V.H. Heywood, N.A. Burges, D.M. Moore, D.H. Valentine, S.M. Walters & D.A. Webb (eds.), 1964-1980.- *Flora Europaea*, 1-5. Cambridge University Press.
- UNESCO (Anonymous), 2003.- *Convention for the Safeguarding of the Intangible Cultural Heritag*. Paris, 17 October 2003. <http://unesdoc.unesco.org>
- Valdés B., S. Talavera & E. Fernández-Galiano, 1987.- *Flora vascular de Andalucía Oriental*, 3 vols. Editorial Ketres, Barcelona.
- Valle F., H. Tenorio & J. Muñóz, 2001.- *El medio natural del Poniente Granadino*. Ed. Rueda, Madrid.
- Verde López A., 2002.- *Estudio etnofarmacológico de tres áreas de montaña de Castilla la Mancha*. Tesis doctoral, Universidad de Murcia.
- Villar L., J.M. Palacín, C. Calvo, D. Gómez & G. Monserrat, 1992.- *Plantas medicinales del Pirineo Aragonés y demás tierras oscenses*. Diputación Provincial de Huesca.
- VV.AA. 2000. Lista Roja de la flora vascular española. *Conserv. Vegetal*, **6**, 11-38.

Table III.- Taxa; voucher number, botanical families, main uses, chorology, source, biotype and syntaxonomical classes of used plants. Legend: C = chorology; BE : Baetic endemism; IE: Iberian endemism; SE: South Spain endemism; INE: Ibero-Northafrican endemism; MR; Mediterranean Region (sensu lato), WD: wide distributed. S= source of the resource: C: collected; P: purchased; CP: collected or purchased. B: biotype: Te: terophyte; Ge: geophyte; Hm: hemicryptophyte; Ch: chamaephyte; Ph: phanerophyte; Np: nanophanerophyte; He: helophyte. Uses: AA: animal feed; AG: agriculture; AR: aromatic; CO: construction; CS: cosmetics; C/R: cultural or religious manifestation; DO: domestic; DY: dyes; F: food; FU: fuel; GM: games; HA: handicraft; H-F: hunt or fish; M: medicinal; MR: magical-religious; OR; ornamental; TX: toxic; VE: veterinary. Plants marked with * are not native to our study area.

Tableau III.- Taxons, n° d'herbier, familles botaniques, utilisations principales, chorologie, biotype, source et classes syntaxonomiques des plantes utilisées.

Family	Taxon	C	S	B	Uses	Syntax. Class
Aceraceae	<i>Acer granatense</i> (GDA53824)	INE	C	Ph	AF, HA	<i>Quercetetea</i>
Adiantaceae	<i>Adiantum capillus-veneris</i> (GDA54094)	WD	C	Hm	M, VE	<i>Adiantetea</i>
Agavaceae	<i>Agave americana</i> L. (GDA53864) *	WD	C	Ph	VE	Undefined
	<i>Yucca</i> sp. pl. *	WD	C	Ph	C/R, OR	Undefined
Amaranthaceae	<i>Amaranthus retroflexus</i> (GDA53803)	WD	C	Te	F, AF	<i>Stellarietea mediae</i>
Amblystegiaceae	<i>Cratoneuron commutatum</i> (GDA54300)	WD	C	Hm	C/R	Undefined
Anacardiaceae	<i>Pistacia lentiscus</i> (GDA53849)	MR	C	Np	VE, MR	<i>Quercetetea ilicis</i>
	<i>Pistacia terebinthus</i> (GDA53848)	MR	C	Ph	M, HA, AF	<i>Quercetetea ilicis</i>
	<i>Rhus coriaria</i> (GDA53856) *	MR	C	Ph	DY	Undefined
Apiaceae	<i>Apium graveolens</i>	MR	CP	Hm	M, F	<i>Juncetetea maritimi</i>
	<i>Apium nodiflorum</i> (GDA54102)	MR	C	Hm	M, F	<i>Phragmito-Magnocaricetea</i>
	<i>Bifora testiculata</i> (GDA54320)	MR	C	Te	F	<i>Stellarietea mediae</i>
	<i>Bunium macuca</i> (GDA54106)	INE	C	Ge	M, F	<i>Quercetetea</i>
	<i>Bupleurum gibraltarium</i> (GDA54110)	INE	C	Np	M, VE, F	<i>Quercetetea ilicis</i>
	<i>Conium maculatum</i> (GDA54107)	WD	C	Hm	TX	<i>Galio-Urticetea</i>
	<i>Cuminum cyminum</i> *	WD	P	Te	M, F	Undefined
	<i>Daucus carota</i> (GDA54097)	WD	C	Hm	F, TX	<i>Artemisietetea vulgaris</i>
	<i>Eryngium campestre</i> (GDA54112)	MR	C	Hm	M, F	<i>Artemisietetea vulgaris</i>
	<i>Ferula communis</i> (GDA54105)	IE	C	Hm	VE	<i>Festuco-Brometea</i>
	<i>Foeniculum vulgare</i> (GDA54111)	MR	C	Hm	M, VE, F	<i>Artemisietetea vulgaris</i>
	<i>Petroselinum crispum</i> (GDA54108) *	WD	CP	Hm	M, VE, F	Undefined
	<i>Pimpinella anisum</i> (GDA54100) *	WD	CP	Te	M, F	Undefined
	<i>Ridolfia segetum</i> (GDA54104)	MR	C	Te	M, F, MR	<i>Stellarietea mediae</i>
	<i>Scandix australis</i> subsp. <i>australis</i> (GDA54095)	MR	C	Te	M, F	<i>Tuberarietea guttatae</i>
	<i>Scandix pecten-veneris</i> (GDA54098)	MR	C	Te	M, F	<i>Stellarietea mediae</i>
	<i>Thapsia villosa</i> (GDA54101)	MR	C	Hm	M, VE, F	<i>Festuco-Brometea</i>
	<i>Torilis arvensis</i> subsp. <i>neglecta</i> (GDA54113)	MR	C	Te	M	<i>Cardaminio-Geranietetea purpurei</i>
Apocynaceae	<i>Nerium oleander</i> (GDA53843)	MR	C	Np	VE, TX, AG	<i>Nerio-Tamaricetea</i>
Araliaceae	<i>Hedera helix</i> (GDA53868)	WD	C	Ph	M, AF	<i>Quercetetea</i>
Arecaceae	<i>Chamaerops humilis</i> *	MR	C	Ph	F, HA	<i>Quercetetea ilicis</i>
	<i>Phoenix dactylifera</i> *	WD	CP	Ph	OR, MR, F	Undefined
Aspleniaceae	<i>Ceterach officinarum</i> (GDA54011)	WD	C	Hm	M	<i>Parietarietea</i>
Asteraceae	<i>Anacyclus clavatus</i> (GDA54152)	MR	C	Te	M, F	<i>Stellarietea mediae</i>
	<i>Andryala integrifolia</i> (GDA54198)	MR	C	Hm	M	<i>Lygeo-Stipetea</i>
	<i>Andryala ragusina</i> (GDA54146)	MR	C	Hm	H-F	<i>Thlaspietea rotundifolii</i>
	<i>Anthemis arvensis</i> (GDA54191)	MR	C	Te	M, GM	<i>Stellarietea mediae</i>
	<i>Artemisia absinthium</i> (GDA54178) *	WD	C	Ch	AR, OR	Undefined
	<i>Artemisia campestris</i> subsp. <i>glutinosa</i> (GDA54140)	MR	C	Ch	M, AF	<i>Pegano-Salsoletea</i>
	<i>Bidens aurea</i> (GDA54144) *	WD	C	Hm	M, F	Undefined
	<i>Calendula officinalis</i> *	WD	C	Te	M, DO, OR	Undefined
	<i>Carduus platypus</i> subsp. <i>granatensis</i> (GDA54143)	IE	C	Hm	AF	<i>Artemisietetea vulgaris</i>
	<i>Centaurea boissieri</i> subsp. <i>willkommii</i> (GDA53997)	BE	C	Ch	GM	<i>Rosmarinetetea officinalis</i>
	<i>Centaurea calcitrapa</i> (GDA54147)	MR	C	Hm	M	<i>Artemisietetea vulgaris</i>
	<i>Centaurea pullata</i> (GDA54196)	MR	C	Te	H-F	<i>Stellarietea mediae</i>
	<i>Chamaemelum mixtum</i> (GDA54179)	MR	C	Te	M	<i>Stellarietea mediae</i>
	<i>Chamaemelum nobile</i> (GDA54150)	WD	C	Ch	AF	<i>Molinio-Arrhenatheretea</i>
	<i>Chondrilla juncea</i> (GDA54180)	WD	C	Hm	F	<i>Artemisietetea vulgaris</i>
	<i>Chrysanthemum coronarium</i> (GDA54190)	MR	C	Te	M	<i>Stellarietea mediae</i>
	<i>Cichorium intybus</i> (GDA54174)	WD	C	Hm	M, F, AF	<i>Artemisietetea vulgaris</i>
	<i>Cirsium pyrenaicum</i> (GDA54158)	MR	C	Hm	AF	<i>Molinio-Arrhenatheretea</i>
	<i>Crepis vesicaria</i> subsp. <i>haenseleri</i> (GDA54151)	MR	C	Te	F, AF	<i>Stellarietea mediae</i>
	<i>Crupina crupinastrum</i> (GDA54194)	WD	C	Te	M	<i>Tuberarietea guttatae</i>
	<i>Cynara cardunculus</i> (GDA54199)	MR	C	Hm	M, F, C/R	<i>Artemisietetea vulgaris</i>
	<i>Cynara humilis</i> (GDA54160)	INE	C	Hm	F	<i>Artemisietetea vulgaris</i>
	<i>Cynara scolymus</i> *	WD	CP	Hm	M, F	Undefined

	<i>Diurichia viscosa</i> (GDA54164)	MR	C	Hm	M, VE, AG	<i>Artemisieta vulgaris</i>
	<i>Helianthus annuus</i> *	WD	CP	Te	M, F, OR	Undefined
	<i>Helianthus tuberosus</i> (GDA54195) *	WD	C	Ge	F, OR	Undefined
	<i>Helichrysum italicum</i> subsp. <i>serotinum</i> (GDA54182)	MR	C	Ch	M, AF	<i>Pegano-Salsotea</i>
	<i>Helichrysum stoechas</i> (GDA54183)	MR	C	Ch	M, AF	<i>Pegano-Salsotea</i>
	<i>Jasione glutinosa</i> (GDA54139)	MR	C	Ch	M, F	<i>Asplenietea trichomanis</i>
	<i>Lactuca serriola</i> (GDA54154)	WD	C	Hm	F, AF, H-F	<i>Artemisieta vulgaris</i>
	<i>Lactuca tennerrima</i> (GDA54145)	MR	C	Ch	F	<i>Thlaspietea rotundifolii</i>
	<i>Leontodon longirostris</i> (GDA54192)	MR	C	Te	F	<i>Stellarietea mediae</i>
	<i>Leuzea conferta</i> (GDA54177)	MR	C	Hm	OR	<i>Lygeo-Stipetea</i>
	<i>Mantisalca salmantica</i> (GDA54188)	MR	C	Hm	M, F, HA	<i>Festuco-Brometea</i>
	<i>Matricaria chamomilla</i> (GDA54138)	WD	CP	Te	M, F, CS	<i>Stellarietea mediae</i>
	<i>Onopordum nervosum</i> (GDA54200)	IE	C	Hm	F, AF	<i>Artemisieta vulgaris</i>
	<i>Pallenis spinosa</i> (GDA54155)	MR	C	Te	M, VE	<i>Artemisieta vulgaris</i>
	<i>Ptilostemon hispanicus</i> (GDA54157)	SE	C	Hm	FU	<i>Rosmarinetea officinalis</i>
	<i>Sanitolina chamaecyparissus</i> subsp. <i>squamosa</i> (GDA54172)	MR	C	Ch	M, FU	<i>Pegano-Salsotea</i>
	<i>Sanitolina rosmarinifolia</i> subsp. <i>canescens</i> (GDA54185)	INE	C	Ch	F, FU, GM	<i>Pegano-Salsotea</i>
	<i>Scolymus hispanicus</i> (GDA54170)	MR	C	Hm	M, F	<i>Artemisieta vulgaris</i>
	<i>Scorzonera angustifolia</i> (GDA54169)	INE	C	Hm	F	<i>Festuco-Brometea</i>
	<i>Scorzonera hispanica</i> (GDA54168)	MR	C	Hm	F	<i>Rosmarinetea officinalis</i>
	<i>Scorzonera laciniata</i> (GDA54186)	MR	C	Hm	F	<i>Stellarietea mediae</i>
	<i>Silybum marianum</i> (GDA54142)	WD	C	Hm	M, F, MR	<i>Artemisieta vulgaris</i>
	<i>Sonchus maritimus</i> subsp. <i>aquatilis</i> (GDA54162)	MR	C	Hm	AF	<i>Molinio-Arrhenatheretea</i>
	<i>Sonchus oleraceus</i> (GDA54156)	WD	C	Te	M, F, AF	<i>Stellarietea mediae</i>
	<i>Taraxacum erythrospermum</i> (GDA54149)	WD	C	Hm	F	<i>Molinio-Arrhenatheretea</i>
	<i>Taraxacum vulgare</i> (GDA54189)	WD	C	Hm	M, F, AF	<i>Molinio-Arrhenatheretea</i>
	<i>Tragopogon crocifolius</i> (GDA54141)	MR	C	Hm	F, H-F, GM	<i>Festuco-Brometea</i>
	<i>Tragopogon porrifolius</i> (GDA54173)	MR	C	Hm	F	<i>Festuco-Brometea</i>
	<i>Xanthium spinosum</i> (GDA54148)	WD	C	Te	M	<i>Stellarietea mediae</i>
Berberidaceae	<i>Berberis vulgaris</i> subsp. <i>australis</i> (GDA53846)	INE	C	Np	M, F, AF	<i>Rhamno-Prunetea</i>
Boraginaceae	<i>Alkanna tinctoria</i> (GDA53946)	MR	C	Hm	M, VE, CS	<i>Stellarietea mediae</i>
	<i>Anchusa azurea</i> (GDA53948)	MR	C	Hm	M, AF	<i>Stellarietea mediae</i>
	<i>Anchusa undulata</i> subsp. <i>granatensis</i> (GDA53952)	SE	C	Hm	F	<i>Stellarietea mediae</i>
	<i>Borago officinalis</i> (GDA53953) *	MR	C	Te	M, F, AF	Undefined
	<i>Echium creticum</i> subsp. <i>coincyanum</i> (GDA53951)	MR	C	Hm	F	<i>Stellarietea mediae</i>
	<i>Lithodora fruticosa</i> (GDA53947)	MR	C	Ch	M	<i>Rosmarinetea officinalis</i>
Brassicaceae	<i>Brassica oleracea</i> var. <i>capitata</i> *	WD	CP	Te	M, F	Undefined
	<i>Capsella bursa-pastoris</i> (GDA54037)	WD	C	Te	AF	<i>Stellarietea mediae</i>
	<i>Cardaria draba</i> (GDA54036)	MR	C	Hm	OR	<i>Stellarietea mediae</i>
	<i>Crambe filiformis</i> (GDA54040)	INE	C	Hm	AF	<i>Phagnalo-Rumicetea indurati</i>
	<i>Eruca vesicaria</i> (GDA54038)	MR	C	Te	AF	<i>Stellarietea mediae</i>
	<i>Raphanus sativus</i> *	WD	CP	Te	M, F, AF	Undefined
	<i>Rorippa nasturtium-aquaticum</i> (GDA54035)	WD	C	He	M, VE, F	<i>Phragmito-Magnocaricetea</i>
	<i>Sinapis alba</i> subsp. <i>mairei</i> (GDA54039)	WD	C	Te	M, F, AF	<i>Stellarietea mediae</i>
	<i>Sisymbrium irio</i> (GDA54041)	WD	C	Te	AF	<i>Stellarietea mediae</i>
Cactaceae	<i>Opuntia maxima</i> (GDA53854) *	WD	C	Ph	M, F, AF	Undefined
Cannabaceae	<i>Cannabis sativa</i> *	WD	CP	Te	M, F, AF	Undefined
Caprifoliaceae	<i>Capparis spinosa</i> var. <i>canescens</i> (GDA54010)	MR	C	Np	F	<i>Pegano-Salsotea</i>
	<i>Lonicera etrusca</i> (GDA53980)	MR	C	Ph	F	<i>Quercetea ilicis</i>
	<i>Lonicera implexa</i> (GDA53833)	MR	C	Ph	F	<i>Quercetea ilicis</i>
	<i>Sambucus nigra</i> (GDA53818)	MR	C	Ph	M, C/R	<i>Rhamno-Prunetea</i>
Caryophyllaceae	<i>Cerastium gibraltariacum</i> (GDA54026)	MR	C	Ch	AF	<i>Rosmarinetea officinalis</i>
	<i>Herniaria cinerea</i> (GDA54023)	MR	C	Hm	M	<i>Tuberarietea guttatae</i>
	<i>Paronychia argentea</i> (GDA54028)	MR	C	Ch	M, AF	<i>Poetea bulbosae</i>
	<i>Paronychia suffruticosa</i> subsp. <i>hirsuta</i> (GDA53865)	BE	C	Ch	M	<i>Rosmarinetea officinalis</i>
	<i>Silene vulgaris</i> (GDA54027)	MR	C	Hm	F	<i>Festuco-Brometea</i>
	<i>Vaccaria hispanica</i> (GDA54029)	MR	C	Te	M, F	<i>Stellarietea mediae</i>
Cistaceae	<i>Cistus albidus</i> (GDA54044)	MR	C	Np	VE, AF	<i>Rosmarinetea officinalis</i>
	<i>Cistus clusii</i> (GDA54042)	MR	C	Np	M, AF	<i>Rosmarinetea officinalis</i>
	<i>Cistus laurifolius</i> (GDA54046)	MR	C	Np	FU	<i>Cisto-Lavanduletea</i>
	<i>Helianthemum hirtum</i> (GDA54047)	MR	C	Ch	M	<i>Rosmarinetea officinalis</i>
Convolvulaceae	<i>Convolvulus althaeoides</i> (GDA53816)	MR	C	Hm	AF, AG	<i>Lygeo-Stipetea</i>
	<i>Convolvulus arvensis</i> (GDA53852)	WD	C	Ge	AF, AG	<i>Artemisieta vulgaris</i>
	<i>Ipomoea batatas</i> *	WD	CP	Ph	M, F	Undefined
Crassulaceae	<i>Hydrotaphys telephium</i> (GDA53802) *	WD	C	Hm	M, OR	Undefined
	<i>Sedum sediforme</i> (GDA53819)	MR	C	Ch	M, F	<i>Sedo-Scleranthetea</i>
	<i>Umbilicus rupestris</i> (GDA53975)	MR	C	Hm	M	<i>Parietarietea</i>
Cucurbitaceae	<i>Citrullus lanatus</i> *	WD	C	Te	M, F	Undefined
	<i>Cucumis melo</i> *	WD	CP	Te	M, C/R, F	Undefined
	<i>Cucumis sativus</i> *	WD	CP	Te	M, CS, F	Undefined

	<i>Cucurbita</i> sp. pl. *	WD	C	Tc	M, F, AF	Undefined
	<i>Ecballium elaterium</i> (GDA53871)	MR	C	Hm	TX	<i>Stellarietea mediae</i>
	<i>Lagenaria siceraria</i> *	WD	C	Te	DO	Undefined
	<i>Luffa cylindrica</i> *	WD	C	Te	DO	Undefined
Cupressaceae	<i>Cupressus sempervirens</i> (GDA54016) *	MR	C	Ph	M, CS	Undefined
	<i>Juniperus oxycedrus</i> (GDA54020)	MR	C	Ph	M, VE, HA	<i>Quercetea ilicis</i>
	<i>Juniperus phoenicea</i> (GDA54019)	MR	C	Ph	VE, HA	<i>Quercetea ilicis</i>
Cyperaceae	<i>Cyperus longus</i> (GDA54080)	WD	C	Ge	HA, C/R	<i>Phragmito-Magnocaricetea</i>
Cyperaceae	<i>Scirpoides holoschoenus</i> (GDA54074)	WD	C	Ge	M, F, HA	<i>Molinio-Arrhenatheretea</i>
Chenopodiaceae	<i>Beta vulgaris</i> *	WD	CP	Hm	M, F	Undefined
	<i>Chenopodium botrys</i> (GDA54131) *	WD	C	Te	AR	Undefined
	<i>Spinacia oleracea</i> *	WD	CP	Te	M, F	Undefined
Equisetaceae	<i>Equisetum ramosissimum</i> (GDA54012)	WD	C	Ch	M, AF, CR	<i>Molinio-Arrhenatheretea</i>
	<i>Equisetum telmateia</i> (GDA54013)	WD	C	Ge	M, AF, CR	<i>Salici-Populetea nigrae</i>
Ericaceae	<i>Arbutus unedo</i> (GDA53834)	MR	C	Ph	F	<i>Quercetea ilicis</i>
	<i>Erica terminalis</i> (GDA53855)	MR	C	Np	M	<i>Rosmarinetea officinalis</i>
Euphorbiaceae	<i>Chamaesyce canescens</i> (GDA54116)	WD	C	Te	M	<i>Polygono-Poetea annuae</i>
	<i>Euphorbia nicaeensis</i> (GDA54115)	MR	C	Ch	M, GM	<i>Rosmarinetea officinalis</i>
	<i>Euphorbia peplus</i> (GDA54118)	WD	C	Te	M, AF	<i>Stellarietea mediae</i>
	<i>Euphorbia serrata</i> (GDA54117)	MR	C	Ch	M	<i>Stellarietea mediae</i>
	<i>Ricinus communis</i> (GDA54114) *	WD	P	Np	M	Undefined
Fabaceae	<i>Adenocarpus decorticans</i> (GDA53914)	INE	C	Ph	AF, FU	<i>Cytisetea scopario-striati</i>
	<i>Anthyllis tejedensis</i> (GDA53926)	INE	C	Ch	AF	<i>Rosmarinetea officinalis</i>
	<i>Bituminaria bituminosa</i> (GDA53927)	MR	C	Hm	M, AF	<i>Lygeo-Stipetea</i>
	<i>Ceratonia siliqua</i> *	MR	CP	Ph	M, F, AF	Undefined
	<i>Cicer arietinum</i> *	MR	CP	Te	M, F, AF	Undefined
	<i>Coronilla scorpioides</i> (GDA53913)	MR	C	Te	GM	<i>Tuberarietea guttatae</i>
	<i>Cytisus scoparius</i> subsp. <i>reverchonii</i> (GDA53909)	BE	C	Np	VE, TX, HA	<i>Cytisetea scopario-striati</i>
	<i>Genista cinerea</i> (GDA53930)	MR	C	Np	HA, AF	<i>Cytisetea scopario-striati</i>
	<i>Genista umbellata</i> (GDA53981)	INE	C	Ch	FU	<i>Rosmarinetea officinalis</i>
	<i>Gleditsia triacanthos</i> *	WD	C	Ph	F, OR	Undefined
	<i>Glycyrrhiza glabra</i> *	WD	P	Ge	M, F	Undefined
	<i>Medicago sativa</i> (GDA53919) *	WD	CP	Hm	M, F, AF	Undefined
	<i>Ononis aragonensis</i> (GDA53932)	MR	C	Np	AF, FU	<i>Rhamno-Prunetea</i>
	<i>Ononis natrix</i> (GDA53908)	MR	C	Ch	AF	<i>Lygeo-Stipetea</i>
	<i>Ononis speciosa</i> (GDA53923)	INE	C	Np	AF	<i>Quercetea ilicis</i>
	<i>Ononis spinosa</i> (GDA53921)	WD	C	Ch	M	<i>Festuco-Brometea</i>
	<i>Phaseolus vulgaris</i> *	WD	C	Te	F, AF	Undefined
	<i>Retama sphaerocarpa</i> (GDA53934)	INE	C	Ph	M, VE, C/R	<i>Cytisetea scopario-striati</i>
	<i>Robinia pseudoacacia</i> (GDA53916) *	WD	C	Ph	F, C/R	Undefined
	<i>Spartium junceum</i> (GDA53915) *	MR	C	Ph	C/R	Undefined
	<i>Trifolium repens</i> (GDA53928)	MR	C	Hm	M, AF	<i>Molinio-Arrhenatheretea</i>
	<i>Trifolium stellatum</i> (GDA53931)	MR	C	Te	AF	<i>Tuberarietea guttatae</i>
	<i>Ulex parviflorus</i> (GDA53918)	MR	C	Np	M, DO	<i>Rosmarinetea officinalis</i>
	<i>Vicia ervilia</i> *	WD	C	Te	M, AF	Undefined
	<i>Vicia faba</i> *	WD	CP	Te	M, F, AF	Undefined
	<i>Vicia lutea</i> (GDA53941)	MR	C	Te	AF	<i>Stellarietea mediae</i>
	<i>Vicia peregrina</i> (GDA53933)	MR	C	Te	AF	<i>Stellarietea mediae</i>
	<i>Vicia sativa</i> (GDA53937) *	MR	C	Te	F, AF	Undefined
Fagaceae	<i>Castanea sativa</i> (GDA53838) *	MR	CP	Ph	M, F, HA	Undefined
	<i>Quercus coccifera</i> (GDA53844)	MR	C	Ph	F, AF	<i>Quercetea ilicis</i>
	<i>Quercus faginea</i> (GDA53851)	INE	C	Ph	F, AF, GM	<i>Quercu-Fagetea</i>
	<i>Quercus pyrenaica</i> (GDA53835)	MR	C	Ph	AF, HA	<i>Quercu-Fagetea</i>
	<i>Quercus rotundifolia</i> (GDA53814)	MR	C	Ph	M, VE, F	<i>Quercetea ilicis</i>
	<i>Quercus suber</i>	MR	CP	Ph	M, AF	<i>Quercetea ilicis</i>
Gentianaceae	<i>Centaurium erythraea</i> (GDA54005)	WD	C	Hm	M	<i>Festuco-Brometea</i>
Geraniaceae	<i>Erodium cicutarium</i> (GDA53870)	WD	C	Te	F, GM	<i>Stellarietea mediae</i>
	<i>Pelargonium</i> sp. pl. *	WD	C	Ch	M	Undefined
Guttiferae	<i>Hypericum perforatum</i> (GDA53799)	WD	C	Hm	M	<i>Festuco-Brometea</i>
Hippocastanaceae	<i>Aesculus hippocastanum</i> (GDA53842) *	WD	C	Ph	M, OR	Undefined
Iridaceae	<i>Crocus sativus</i> *	WD	P	Ge	M, F	Undefined
	<i>Iris planifolia</i> (GDA54091)	MR	C	Ge	C/R	<i>Festuco-Brometea</i>
Juglandaceae	<i>Juglans regia</i> *	WD	C	Ph	M, VE, F	Undefined
Lamiaceae	<i>Acinos alpinus</i> subsp. <i>meridionalis</i> (GDA53891)	MR	C	Ch	M, F	<i>Rosmarinetea officinalis</i>
	<i>Ajuga reptans</i> (GDA53903)	MR	C	Ch	M, AF	<i>Tuberarietea guttatae</i>
	<i>Ballota hirsuta</i> (GDA53893)	MR	C	Ch	M, DO	<i>Pegano-Salsotea</i>
	<i>Lavandula lanata</i> (GDA53906)	BE	C	Np	M, AR	<i>Rosmarinetea officinalis</i>
	<i>Lavandula latifolia</i> (GDA54312)	MR	C	Np	M, AR, C/R	<i>Rosmarinetea officinalis</i>
	<i>Lavandula stoechas</i> (GDA53886)	MR	C	Np	M, F	<i>Cisto-Lavanduletea</i>
	<i>Marrubium supinum</i> (GDA53899)	INE	C	Ch	M	<i>Pegano-Salsotea</i>

	<i>Marrubium vulgare</i> (GDA53900)	WD	C	Ch	M, AF	<i>Artemisietea vulgaris</i>
	<i>Melissa officinalis</i> (GDA53883) *	MR	C	Hm	M, F	Undefined
	<i>Mentha pulegium</i> (GDA53895)	MR	CP	Hm	M, F	<i>Isoeto-Nanojuncetea</i>
	<i>Mentha spicata</i> (GDA53882) *	WD	C	Hm	M, F, C/R	Undefined
	<i>Mentha suaveolens</i> (GDA53894)	MR	C	Hm	M, VE, C/R	<i>Molinio-Arrhenatheretea</i>
	<i>Mentha xiphioides</i> *	WD	C	Hm	M, F	Undefined
	<i>Ocimum basilicum</i> *	WD	CP	Hm	F, AG, CS	Undefined
	<i>Origanum vulgare</i> subsp. <i>virens</i> (GDA53884)	MR	CP	Hm	M, F, CS	<i>Trifolio-Geranietea</i>
	<i>Phlomis lychnitis</i> (GDA53905)	MR	C	Ch	VE, AF	<i>Lygeo-Stipetea</i>
	<i>Phlomis purpurea</i> (GDA53901)	INE	C	Np	M, VE, AF	<i>Quercetea ilicis</i>
	<i>Plectranthus ciliatus</i> *	WD	C	Hm	DO, MR	Undefined
	<i>Rosmarinus officinalis</i> (GDA54003)	MR	C	Np	M, VE, F	<i>Rosmarinetea officinalis</i>
	<i>Salvia lavandulifolia</i> subsp. <i>vellerea</i> (GDA53896)	MR	C	Ch	M, VE, F	<i>Rosmarinetea officinalis</i>
	<i>Salvia microphylla</i> (GDA53885) *	WD	C	Ch	F, OR	Undefined
	<i>Salvia verbenaca</i> (GDA54314)	MR	C	Hm	M	<i>Artemisietea vulgaris</i>
	<i>Satureja obovata</i> (GDA53892)	IE	C	Ch	F	<i>Rosmarinetea officinalis</i>
	<i>Sideritis hirsuta</i> (GDA54007)	MR	C	Ch	M, VE	<i>Pegano-Salsotea</i>
	<i>Sideritis incana</i> (GDA54321)	INE	C	Ch	M	<i>Rosmarinetea officinalis</i>
	<i>Teucrium lusitanicum</i> (GDA53898)	IE	C	Ch	M	<i>Rosmarinetea officinalis</i>
	<i>Thymbra capitata</i> (GDA53904)	MR	C	Ch	M, F	<i>Rosmarinetea officinalis</i>
	<i>Thymus longiflorus</i> (GDA53889)	BE	C	Ch	F	<i>Rosmarinetea officinalis</i>
	<i>Thymus mastichina</i> (GDA53890)	IE	C	Ch	M, VE, F	<i>Pegano-Salsotea</i>
	<i>Thymus oroscedanus</i> (GDA53902)	BE	C	Ch	F, AF	<i>Rosmarinetea officinalis</i>
	<i>Thymus serpyllum</i> *	WD	P	Ch	M	Undefined
	<i>Thymus zygis</i> subsp. <i>gracilis</i> (GDA53878)	INE	C	Ch	M, F, CS	<i>Rosmarinetea officinalis</i>
Lauraceae	<i>Cinnamomum zeylanicum</i> *	WD	P	Ph	M, F	Undefined
	<i>Laurus nobilis</i> *	MR	CP	Ph	M, F, C/R	Undefined
Leucodontaceae	<i>Leucodon schuroides</i> (GDA54301)	WD	C	Hm	GM	Undefined
Liliaceae	<i>Allium ampeloprasum</i> (GDA54088)	MR	C	Ge	M, F	<i>Stellarietea mediae</i>
	<i>Allium cepa</i> *	WD	CP	Ge	M, VE, F	Undefined
	<i>Allium roseum</i> (GDA54090)	MR	C	Ge	M, F	<i>Festuco-Brometea</i>
	<i>Allium sativum</i> *	WD	CP	Ge	M, F, MR	Undefined
	<i>Aloe vera</i> *	WD	CP	Ch	M, CS	Undefined
	<i>Asparagus acutifolius</i> (GDA54078)	MR	C	Np	M, F	<i>Quercetea ilicis</i>
	<i>Asparagus albus</i> (GDA54302)	MR	C	Np	M, F	<i>Quercetea ilicis</i>
	<i>Asparagus officinalis</i> *	WD	CP	Hm	M, F, OR	Undefined
	<i>Asphodelus albus</i>	MR	C	Ge	M, TX, H-F	<i>Lygeo-Stipetea</i>
	<i>Glaucium illyricum</i> (GDA54089)	MR	C	Ge	OR	<i>Festuco-Brometea</i>
	<i>Lilium candidum</i> *	WD	C	Ge	M, H-F	Undefined
	<i>Smilax aspera</i> (GDA53853)	MR	C	Ph	M, F	<i>Quercetea ilicis</i>
	<i>Urginea maritima</i> (GDA54075)	MR	C	Ge	M, VE	<i>Quercetea ilicis</i>
Lythraceae	<i>Punica granatum</i> (GDA53857) *	WD	C	Ph	M, CS, C/R	Undefined
Magnoliaceae	<i>Illicium verum</i> *	WD	P	Ph	M	Undefined
Malvaceae	<i>Alcea rosea</i> *	WD	C	Hm	DY, OR	Undefined
	<i>Althaea officinalis</i>	WD	C	Hm	M	<i>Phragmito-Magnocaricetea</i>
	<i>Lavatera arborea</i> (GDA54121)	MR	C	Np	M	<i>Pegano-Salsotea</i>
	<i>Lavatera cretica</i> (GDA54122)	MR	C	Ch	M, F	<i>Stellarietea mediae</i>
	<i>Malva cretica</i> subsp. <i>althaeoides</i> (GDA54119)	INE	C	Te	M	<i>Stellarietea mediae</i>
	<i>Malva sylvestris</i> (GDA54120)	WD	C	Hm	M, F	<i>Stellarietea mediae</i>
Moraceae	<i>Ficus carica</i> (GDA53804)	MR	CP	Ph	M, F, C/R	<i>Parietarietea</i>
	<i>Morus alba</i> (GDA53811) *	WD	C	Ph	F, GM, CO	Undefined
	<i>Morus nigra</i> (GDA53960) *	WD	C	Ph	F, GM, CO	Undefined
Musaceae	<i>Musa</i> sp. pl. *	WD	P	Ph	M	Undefined
Myrtaceae	<i>Eucalyptus camaldulensis</i> (GDA53861) *	WD	CP	Ph	M, CO	Undefined
	<i>Eugenia caryophyllata</i> *	WD	P	Ph	M, CS	Undefined
Oleaceae	<i>Fraxinus angustifolia</i> (GDA53823)	MR	C	Ph	M, AF, HA	<i>Salici-Populetea nigrae</i>
	<i>Jasminum officinale</i> (GDA53795) *	WD	C	Np	M, OR	Undefined
	<i>Olea europaea</i> var. <i>europaea</i> (GDA53845)	MR	C	Ph	VE, F, CS	Undefined
	<i>Olea europaea</i> var. <i>sylvestris</i> (GDA53836)	MR	C	Ph	M, F, CS	<i>Quercetea ilicis</i>
Orobanchaceae	<i>Orobancha crenata</i> (GDA54322)	MR	C	Ge	M, AF	Undefined
Paeoniaceae	<i>Paeonia broteroi</i> (GDA54006)	IE	C	Ge	M, VE, TX	<i>Quercetea ilicis</i>
Papaveraceae	<i>Chelidonium majus</i> (GDA53873)	WD	C	Hm	M	<i>Parietarietea</i>
	<i>Fumaria rupestris</i> (GDA53988)	INE	C	Te	M, AF	<i>Parietarietea</i>
	<i>Fumaria parviflora</i> (GDA53973)	MR	C	Te	F, AF	<i>Stellarietea mediae</i>
	<i>Papaver rhoeas</i> (GDA53791)	MR	C	Te	M, F, AF	<i>Stellarietea mediae</i>
	<i>Papaver somniferum</i> subsp. <i>s.</i> (GDA53789) *	WD	C	Te	M	Undefined
	<i>Papaver somniferum</i> subsp. <i>setigerum</i> (GDA53790)	MR	C	Te	M	<i>Stellarietea mediae</i>
Pinaceae	<i>Pinus halepensis</i> (GDA54017)	MR	C	Ph	M, HA, FU	<i>Quercetea ilicis</i>
	<i>Pinus nigra</i>	MR	C	Ph	M, CO	<i>Junipero-Pinetea sylvestris</i>
	<i>Pinus pinaster</i> (GDA54015)	MR	C	Ph	M, FU, DY	<i>Quercetea ilicis</i>

	<i>Pinus pinea</i> (GDA54018) *	MR	CP	Ph	F, CO	Undefined
Piperaceae	<i>Piper nigrum</i> *	WD	P	Ph	M, F, AF	Undefined
Plantaginaceae	<i>Plantago afra</i> (GDA53993)	WD	C	Te	CS	<i>Stellarietetea mediae</i>
	<i>Plantago albicans</i> (GDA54033)	MR	C	Ch	M, AF	<i>Poetea bulbosae</i>
	<i>Plantago coronopus</i> (GDA54031)	WD	C	Hm	M, VE, AF	<i>Polygono-Poetea annuae</i>
	<i>Plantago lagopus</i> (GDA54034)	MR	C	Te	CS	<i>Stellarietetea mediae</i>
	<i>Plantago lanceolata</i> (GDA54032)	WD	C	Hm	M, CS	<i>Molinio-Arrhenatheretea</i>
Plumbaginaceae	<i>Plumbago europaea</i> (GDA53860)	MR	C	Ch	M, H-F, TX	<i>Pegano-Salsoliete</i>
Poaceae	<i>Aegilops geniculata</i> (GDA54083)	MR	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Ariando donax</i> (GDA54081) *	WD	C	He	F, AG, HA	Undefined
	<i>Avena barbata</i> subsp. <i>b.</i> (GDA54056)	WD	C	Te	M, AF	<i>Stellarietetea mediae</i>
	<i>Avena sativa</i> *	WD	C	Te	M, AF	Undefined
	<i>Avenula bromoides</i> (GDA54053)	MR	C	Hm	AF, HA	<i>Lygeo-Stipetea</i>
	<i>Brachypodium retusum</i> (GDA54093)	MR	C	Ch	AF, FU	<i>Lygeo-Stipetea</i>
	<i>Bromus diandrus</i> (GDA54068)	MR	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Bromus madritensis</i> (GDA54067)	MR	C	Te	VE	<i>Stellarietetea mediae</i>
	<i>Cynodon dactylon</i> (GDA54092)	WD	C	Hm	M	<i>Molinio-Arrhenatheretea</i>
	<i>Dactylis glomerata</i> subsp. <i>hispanica</i> (GDA54066)	MR	C	Hm	VE	<i>Lygeo-Stipetea</i>
	<i>Echinochloa crus-galli</i> (GDA54063)	WD	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Elymus elongatus</i> (GDA54051)	MR	C	Hm	AF	<i>Juncetea maritimi</i>
	<i>Festuca scariosa</i> (GDA54049)	INE	C	Ch	VE, AF, C/R	<i>Lygeo-Stipetea</i>
	<i>Hordeum leporinum</i> (GDA54057)	WD	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Hordeum vulgare</i> *	WD	CP	Te	F, AF	Undefined
	<i>Hyparrhenia hirta</i> (GDA54061)	MR	C	Hm	OR	<i>Lygeo-Stipetea</i>
	<i>Lagurus ovatus</i> (GDA54054)	MR	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Lamarckia aurea</i> (GDA54060)	MR	C	Te	AF	<i>Stellarietetea mediae</i>
	<i>Oryza sativa</i> *	WD	P	Te	M, DO	Undefined
	<i>Phalaris aquatica</i> (GDA54064)	MR	C	Hm	AF	<i>Molinio-Arrhenatheretea</i>
	<i>Phalaris canariensis</i>	MR	P	Te	M, AF	<i>Stellarietetea mediae</i>
	<i>Phragmites australis</i> (GDA54082)	WD	C	Np	HA	<i>Phragmitea-Magnocaricetea</i>
	<i>Poa bulbosa</i> (GDA54062)	WD	C	Te	AF	<i>Poetea bulbosae</i>
	<i>Secale cereale</i> *	WD	C	Te	AF, HA	Undefined
	<i>Setaria verticillata</i> (GDA54065)	WD	C	Te	GM	<i>Stellarietetea mediae</i>
	<i>Stipa lagascae</i> (GDA54059)	MR	C	Hm	VE, AF	<i>Lygeo-Stipetea</i>
	<i>Stipa tenacissima</i> (GDA54052)	MR	C	Ch	M, VE, C/R	<i>Lygeo-Stipetea</i>
	<i>Triticum</i> sp. pl. *	WD	CP	Te	M, F, AF	Undefined
	<i>Zea mays</i> L. *	WD	C	Te	M, F, CS	Undefined
Polygonaceae	<i>Polygonum bellardii</i> (GDA53837)	MR	C	Te	M	<i>Poetea bulbosae</i>
	<i>Rumex conglomeratus</i> (GDA53839)	MR	C	Hm	M, F	<i>Molinio-Arrhenatheretea</i>
	<i>Rumex induratus</i> (GDA53847)	INE	C	Ch	F, AF	<i>Phagnalo-Rumicetea indurati</i>
	<i>Rumex pulcher</i> subsp. <i>woodii</i> (GDA53800)	MR	C	Hm	F, TX	<i>Stellarietetea mediae</i>
Portulacaceae	<i>Portulaca oleracea</i> (GDA53822)	WD	C	Te	F, AF	<i>Stellarietetea mediae</i>
Pteridaceae	<i>Pteridium aquilinum</i> (GDA54014)	WD	C	Ge	AF	<i>Cytisetetea scopario-striati</i>
Ranunculaceae	<i>Helleborus foetidus</i> (GDA53869)	MR	C	Ch	TX	<i>Quercio-Fagetea</i>
	<i>Nigella damascena</i> (GDA53828)	MR	C	Te	M	<i>Stellarietetea mediae</i>
Rhamnaceae	<i>Rhamnus lycioides</i> subsp. <i>velutinus</i> (GDA54136)	INE	C	Ph	HA	<i>Quercetea ilicis</i>
	<i>Rhamnus saxatilis</i> (GDA54133)	MR	C	Np	VE, HA	<i>Rhamno-Prunetea</i>
	<i>Ziziphus jujuba</i> *	WD	CP	Ph	F	Undefined
Rosaceae	<i>Crataegus azarolus</i> (GDA53966) *	MR	C	Ph	F, AG	Undefined
	<i>Crataegus granatensis</i> (GDA53964)	INE	C	Ph	F, GM	<i>Rhamno-Prunetea</i>
	<i>Crataegus monogyna</i> (GDA53965)	WD	C	Ph	M, F, AG	<i>Rhamno-Prunetea</i>
	<i>Cydonia oblonga</i> *	WD	CP	Ph	M, F, CS	Undefined
	<i>Eriobotrya japonica</i> (GDA53961) *	WD	CP	Ph	M, F	Undefined
	<i>Fragaria vesca</i> *	WD	CP	Hm	M, F	Undefined
	<i>Prunus avium</i> (GDA53971)	WD	CP	Ph	M, F, AG	<i>Quercio-Fagetea</i>
	<i>Prunus cerasus</i> *	WD	C	Ph	M, F, HA	Undefined
	<i>Prunus domestica</i> *	WD	C	Ph	M, F, HA	Undefined
	<i>Prunus dulcis</i> (GDA53969) *	WD	CP	Ph	M, F, CS	Undefined
	<i>Prunus mahaleb</i> (GDA53962)	MR	C	Ph	HA	<i>Rhamno-Prunetea</i>
	<i>Prunus spinosa</i> (GDA53968)	MR	C	Np	F	<i>Rhamno-Prunetea</i>
	<i>Rosa canina</i> (GDA53954)	WD	C	Np	M, F, GM	<i>Rhamno-Prunetea</i>
	<i>Rosa</i> sp. pl. *	WD	C	Ph	M, OR, C/R	Undefined
	<i>Rubus ulmifolius</i> (GDA53963)	MR	C	Np	VE, F	<i>Rhamno-Prunetea</i>
	<i>Sanguisorba minor</i> (GDA53979)	WD	C	Hm	M	<i>Festuco-Brometea</i>
	<i>Sorbus aria</i> (GDA53957)	MR	C	Ph	F, CO	<i>Quercio-Fagetea</i>
	<i>Sorbus domestica</i> (GDA53959) *	MR	C	Ph	M, F, HA	Undefined
Rubiaceae	<i>Coffea arabica</i> *	WD	P	Np	M, F	Undefined
	<i>Galium tricornutum</i> (GDA53821)	WD	C	Te	AF, GM	<i>Stellarietetea mediae</i>
	<i>Rubia peregrina</i> (GDA53858)	MR	C	Ph	M, AF, TX	<i>Quercetea ilicis</i>
Rutaceae	<i>Citrus limon</i> *	WD	CP	Ph	M, F, C/R	Undefined

	<i>Citrus sinensis</i> *	WD	CP	Ph	M, F, C/R	Undefined
	<i>Ruta angustifolia</i> (GDA53815)	MR	C	Ch	M, TX	Pegano-Salsoletea
	<i>Ruta montana</i> (GDA53867)	MR	C	Ch	M, VE, TX	Pegano-Salsoletea
Salicaceae	<i>Populus alba</i> (GDA53810)	MR	C	Ph	AF, CO	Salici-Populetea nigrae
	<i>Populus nigra</i> (GDA53796) *	WD	C	Ph	AF, CO	Salici-Populetea nigrae
	<i>Salix alba</i> (GDA54000)	WD	C	Ph	M, AF, CO	Salici-Populetea nigrae
	<i>Salix atrocinerea</i> (GDA53829)	MR	C	Ph	AF, CO	Salici-Populetea nigrae
	<i>Salix purpurea</i> (GDA54001)	MR	C	Ph	AF, HA	Salici-Populetea nigrae
Scrophulariaceae	<i>Antirrhinum hispanicum</i> (GDA54318)	BE	C	Ch	GM	Parietarietea
	<i>Digitalis obscura</i> (GDA53945)	IE	C	Ch	M, VE, H-F	Rosmarinetea officinalis
	<i>Linaria latifolia</i> (GDA53943)	INE	C	Te	F	Stellarietea mediae
	<i>Parentucellia latifolia</i> (GDA53976)	WD	C	Te	AF	Poetea bulbosae
	<i>Scrophularia lyrata</i> (GDA53987)	MR	C	Hm	M	Galio-Urticetea
	<i>Verbascum thapsus</i> (GDA53944)	IE	C	Hm	M, VE	Artemisietea vulgaris
	<i>Verbascum sinuatum</i> (GDA53950)	WD	C	Hm	M	Artemisietea vulgaris
Simaroubaceae	<i>Ailanthus altissima</i> (GDA53797) *	WD	C	Ph	OR, FU	Undefined
Solanaceae	<i>Capsicum frutescens</i> *	WD	CP	Hm	M, OR	Undefined
	<i>Datura stramonium</i> (GDA54124) *	WD	C	Te	TX	Undefined
	<i>Hyoscyamus albus</i> (GDA54123)	MR	C	Hm	M, TX	Parietarietea
	<i>Lycium europaeum</i> (GDA54135)	MR	C	Ph	AG	Pegano-Salsoletea
	<i>Lycopersicon esculentum</i> *	WD	CP	Te	M, F	Undefined
	<i>Nicotiana glauca</i> (GDA54004) *	WD	C	Ph	VE, AG	Undefined
	<i>Nicotiana tabacum</i> *	WD	P	Te	AG	Undefined
	<i>Solanum melongena</i> *	WD	CP	Te	M, F	Undefined
	<i>Solanum nigrum</i> (GDA54127)	WD	C	Te	M, TX	Stellarietea mediae
	<i>Solanum tuberosum</i> *	WD	CP	Ge	M, F	Undefined
	<i>Solanum villosum</i> (GDA54126)	MR	C	Te	M, TX	Stellarietea mediae
Sparganiaceae	<i>Sparganium erectum</i> subsp. e. (GDA54070)	MR	C	He	C/R, GM	Phragmito-Magnocaricetea
Taxaceae	<i>Taxus baccata</i> (GDA54327)	MR	C	Ph	AG, HA, TX	Quercio-Fagetea
Theaceae	<i>Camellia sinensis</i> *	WD	P	Ph	F, DY	Undefined
Thymelaeaceae	<i>Daphne gnidium</i> (GDA53805)	MR	C	Np	M, MR, C/R	Quercetea ilicis
Tiliaceae	<i>Tilia platyphyllos</i> (GDA53798) *	WD	CP	Ph	M, OR	Undefined
Typhaceae	<i>Typha angustifolia</i> (GDA53990)	MR	C	He	HA	Phragmito-Magnocaricetea
	<i>Typha latifolia</i> (GDA53991)	WD	C	He	HA	Phragmito-Magnocaricetea
	<i>Typha domingensis</i> (GDA54171)	WD	C	He	M, HA, OR	Phragmito-Magnocaricetea
Ulmaceae	<i>Celtis australis</i> (GDA53812)	MR	C	Ph	F, AG	Salici-Populetea nigrae
	<i>Ulmus minor</i> (GDA53825)	WD	C	Ph	F, CO, C/R	Salici-Populetea nigrae
Urticaceae	<i>Parietaria judaica</i> (GDA53809)	MR	C	Ch	M, DO	Parietarietea
	<i>Urtica dioica</i> (GDA54315)	WD	C	Te	M, F, AG	Galio-Urticetea
	<i>Urtica urens</i> (GDA54315)	WD	C	Te	M, F, AG	Stellarietea mediae
Valerianaceae	<i>Valeriana officinalis</i> *	WD	CP	Hm	M	Undefined
Verbenaceae	<i>Aloysia citrodora</i> (GDA53850) *	WD	C	Np	M, F, AR	Undefined
	<i>Verbena officinalis</i> (GDA53831)	WD	C	Hm	M, VE	Molinio-Arrhenatheretea
Vitaceae	<i>Vitis vinifera</i> (GDA54313)	MR	C	Ph	M, AG, CS	Undefined
Zygnemataceae	<i>Spirogyra</i> sp. pl. (GDA54299)	WD	C	He	M	Undefined