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Cover Page Footnote

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FLORA OF THE DREAT MOUNTAINS (CENTER OF ALGERIA) - INVENTORY, TAXONOMY AND BIOGEOGRAPHY

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ABSTRACT

Following the publication of the article on the synthaxonomic study of the Dreat forest, the aim of this inventory of the Dreat forest's flora (semi-arid zone in central Algeria) to allow us a quantitative analysis on the basis of biogeographic parameters such as specific richness, geography of distribution, endemism and rarity. A subjective sampling was carried out between 2018 and 2021 at the level of the various formations (forest, matorral, altitude grasslands, and steppe). This analysis showed considerable species richness, estimated at around 468 taxa belonging to 278 genera and 66 families. Therophytes dominate the other living forms, according to the defined biological spectrum. From a biogeographical point of view, Mediterranean species constitute more than 50 percent of the study area's species, followed by endemic species and rare.

Keywords: Flora, rarity, endemism, Dreat forest, diversity, Algeria.

INTRODUCTION

The biosphere's sustainability and proper operation are both dependent on biodiversity (Dajoz, 2003; Blondel, 2006). It represents the result of multi-millennial co-evolution between the components of the ecosystem and human societies. In recent years, the dangers of anthropogenic origin have become increasingly significant (Blondel 2006). However, many territories are still unknown in terms of plant biodiversity (Véla and Benhouhou, 2007).

In addition, Mediterranean forests hold a very eminent heritage value. They conserve remarkable reserves of genetic, specific, and functional diversity (Quezel and Médail, 2003). Some of these forest ecosystems represent landscapes of global interest (Benabadji et al., 2007). Algeria, Due to the abundance and diversity of its native flora, which is a reflection of the climatic conditions under which it was

adapted and developed (Tassin, 2012), and with almost 4,000 taxa, it represents a real phytogenetic and silvicultural reserve (Quezel and Santa, 1962-1963; Dobignard and Chatelain, 2010-2013).

Unfortunately, the actual biodiversity of this area was negatively impacted by human activities such as pastures, agriculture, and commercial Development (Corlett, 2016). Combined with climate change and natural system modification, these factors have caused the loss of many wild species of flora and fauna (Cross et al., 2020). The world's attention has been drawn to this worrying situation and the rapid loss of biodiversity, and it has become a major concern to prevent any erosion imposed on by their unjustified uses, (practices particularly frequent in North Africa) While encouraging the prudent exploitation of these potential resources and the sustainable conservation of this natural heritage (Quezel, 2000; Quezel and

Médail, 2003). The purpose of this study was to identify the wild plant species that were present in the Dreat mountains, to determine their floristic traits, and to hone in on any rare, endangered or endemic species that need additional care and preservation.

MATERIALS AND METHODS

Study Area

Dreat Forest is part of the Hodna chain. The last one offers the orographic link between the Bibans mountains and the Aurès. The Hodna chain is formed, from northwest to southeast, by the Ouanougha mountains, the Dreat mountains, the Maadid mountains, the Bou Taleb, the

Ouled Sellem mountains, and the Belezma. The area examined coincides between 35° 50' and 36° 01' North latitude and 04° 11' and 04° 34' East longitude (Figure.1 and 2). Its area is estimated at 17396 ha, subdivided into 23 cantons. The Dreat forest is also characterized by extremely rough morphometrics and steep slopes. The climate is a very important factor that is placed upstream of any study relating to the functioning of ecological ecosystems. For these areas, the climate is typified by a seasonal regime of the APHE type. Furthermore, the stations at 700 m are in a cool semi-arid bioclimatic environment, while the Dreat stations at 1600 m are in a cool subhumid bioclimatic stag (Ouadeh et al., 2023).

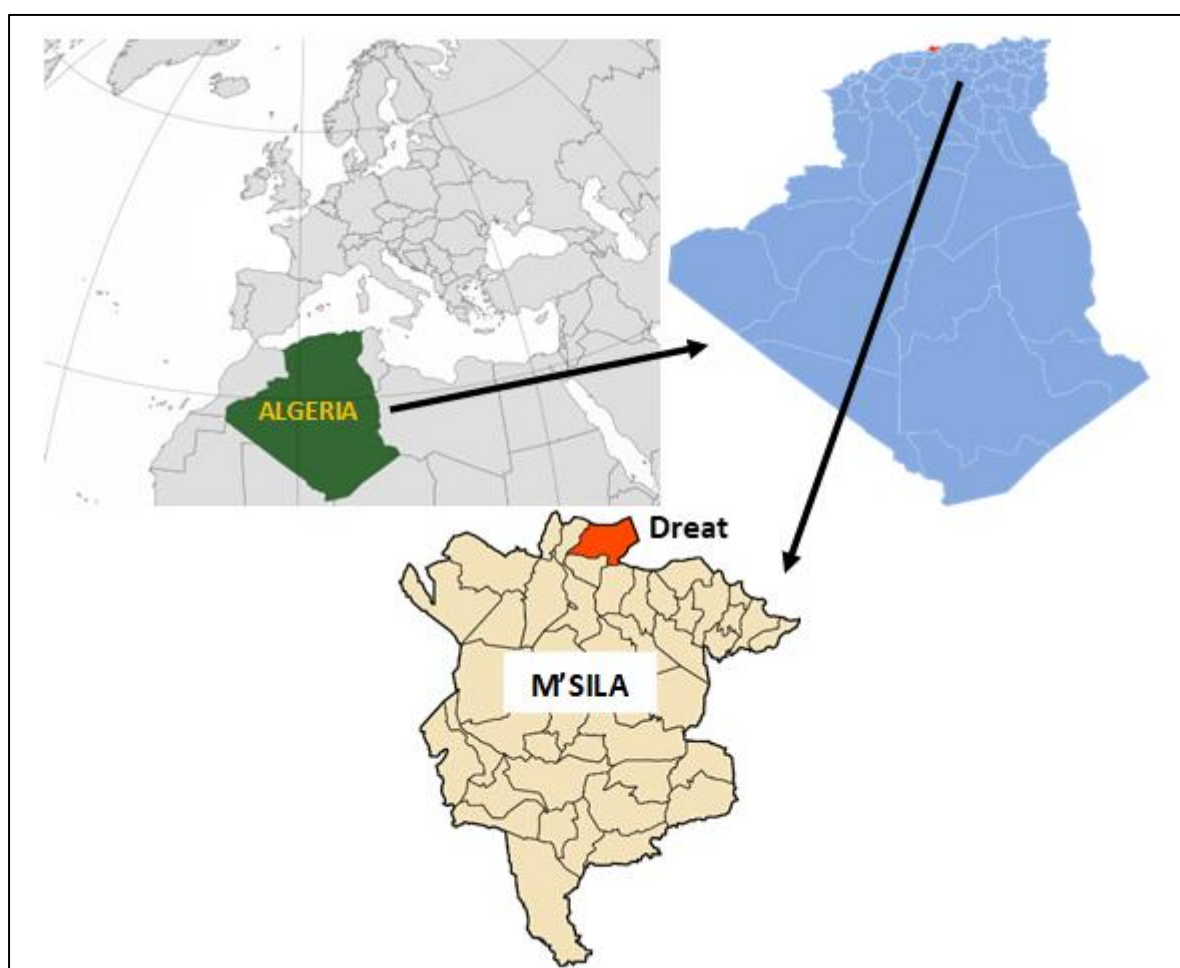


Figure 1: Geographical location of the study area – Dreat

Methodology

The survey, which focused on eight stations that corresponded to the forest, matorrals, altitude grasslands, and the steppe, was conducted between 2018 and 2021 across several types of environmental variables (altitude, slope, and aspect) of the Dreat forest (Table 1). The dwellings'

accessibility, the immediate area, and exceptional biodiversity (density) all had a role in the selection of the stations. Because subjective sampling was easy to utilize and effective in reaching the study's objectives, it was used for sampling. The list of plant taxa has been prepared as completely as possible.



Figure 2: Diversity of Dreat landscapes (Photos K. Rebbas)

The determination of the scientific nomenclature was carried out at the level of the species in the field for those easily recognizable and in the laboratory for the unknown and/or doubtful taxa using : flora of Battandier (1888–1890) , Maire (1952–1987) , Quézel and Santa (1962–1963);The new nomenclature has been updated for the species inventoried, taking into account recent work compiled in the synonymic and bibliographic index of the flora of North Africa by Dobillard and Chatelain (2010–2013) and the site of African Plant Database (2022) .

To establish the chorological types, endemism and rarity, we returned to the indications provided by the new flora of Algeria and the southern desert regions (Quezel and Santa, 1962–1963). Another classification of species according to the biological types of Raunkiaer (1934) has been shown since this character reflects the physiognomy, structure, and environmental adaptations of plants. Five biological types have been retained: therophytes, hemicryptophytes, phanerophytes, chamaephytes, and geophytes to draw up the rough spectrum of biological types.

Table 1: Characteristics of harvesting stations in the Dreat forest

	Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7	Station 8
Canton	Sidi Amar	Kef El Assel	Chedoug	El Haourane	Tihor	Mansour	Belouadeh	Kef El Assel
Exposition	South	North/East	East	North/East/South /West	North	South/West	East	West
Altitude (m asl)	900-1600 m	1225 m	770 m	900-1200 m	700 m	1300-1600 m	990 m	800 m
Slope (%)	S1/2/3	S2	S3	S1/2/3	S1	S1/2	S1	S2
Formation	Matorral	Matorral	Matorral	Forest	Steppe	Altitude grasslands	Lawn	Steppe

Slope : (S1= 3 – 12.5) ; (S2= 12.5 - 25) ; (S3= More than 25 %)

RESULTS AND DISCUSSION

Number of Taxa

The floristic inventory carried out resulted in listing 468 taxa or 14.85 % of the flora of Algeria estimated by Médail and Quezel (1997) around 3150 species. In this catalog, angiosperms constitute almost the total of the flora with 98.29 %. Dicots and monocots each receive 80.25 percent and 18 percent of this amount. Gymnosperms and pteridophytes make up less than 2 % of the total. Additionally, the flora that was inventoried is divided into 66 families and 278 genera of vascular plants. Recent research indicates that the Hodna chain is home to a significant floristic richness, including: In the Dreat and Ouanougha natural forests, 343 taxa distributed over 222 genera and 55 families were identified by Bounab (2020). In all, 392 species belonging to 223 genera and 59 families were inventoried by Guechi (2022) in the Maadid mountains. Zerroug (2020) reported 300 species in the Righa Dahra Forest. Sedjar (2012) counted 367 taxa distributed among 56 families and 226 genera in Boutaleb. Rebbas and Bounar (2012) accorded 241 species belonging to 46 families and 171 genera in El Haourane. By cooperating with this work by finding that the inventory has led to a large and rich number in terms of biodiversity, although the 468 species

identified do not constitute an exhaustive list, the floristic inventory in the Dreat mountains still remains to be completed (Appendix 1).

Generic and Specific Richness by Family

At the generic level, the Asteraceae are the best represented with 57 genera. The Poaceae, Fabaceae and Brassicaceae count 27, 21, and 20 genera, respectively. When the number of genera varies between 17 and 5 for the families Lamiaceae, Apiaceae, Boraginaceae, Caryophyllaceae, Papaveraceae, Rosaceae, and Solanaceae. The rest of the families (including 55 families) are poorly represented, resulting from between 1 and 5 genera.

At the specific level, the Asteraceae are also the best represented with 85 taxa, followed by the Fabaceae with 42 species; 40; 32 and 27 species were estimated for Poaceae, Lamiaceae and Brassicaceae, respectively. In addition, the number of species varies between 20 and 10 taxa for Apiaceae, Caryophyllaceae, Plantaginaceae, Boraginaceae, Cistaceae, Amaryllidaceae. In the end, the other families (i.e., 55 families) which account for less than 10 species (therefore between the 1th and the 9th species) represent a total of 160 species of our floristic list.

Life Forms Distribution

The examination of the floristic arrangement reveals that therophytes predominate over other forms of life (Figure 3). This predominance is typical of the Mediterranean and dry regions where severe water stress is predominant (Daget, 1980; Madon and Médail, 1996). According to Daget (1980), this therophytization is a tactic for avoiding unpleasant times. Specifically, taxa from the families Asteraceae, Brassicaceae, Fabaceae, and Poaceae represent this form of life. Second rank goes to the hemicryptophytes, with 128 taxa (27, 35 %). Barbero et al. found that this rate is characteristic of the Maghreb countries because of the organic matter and humidity present (Benabadji et al., 2007). Furthermore, Tani et al. (2010) claim that this life forms also reflects stable circumstances and soil that is enriched with nutrients. Other biological types indicate less than 11 %.

The Mediterranean Set

This is the largest group, with 264 species. The Mediterranean taxa are similarly dissociated: those linked to the "Mediterranean" phytochoric element number 156 species, followed by the western Mediterranean with 33 species, the Mauritanian Ibero and the Circum-Mediterranean, both with 20 species. The "East Mediterranean" has eight species. Moreover, less than seven species represent the other elements.

Nordic Set

This set is basically made up of 28 Eurasian taxa. The latter form the major floristic element of temperate regions; they determine a crucial place in the north of the Mediterranean. In second position, paleo-temperate species, which include a large number, 16 species; monitoring of the circumboreal element with 6 species; then comes the paleo-subtropical 5 species. Finally, the European and tropical type elements, respectively, denote 2 and 1 single taxa.

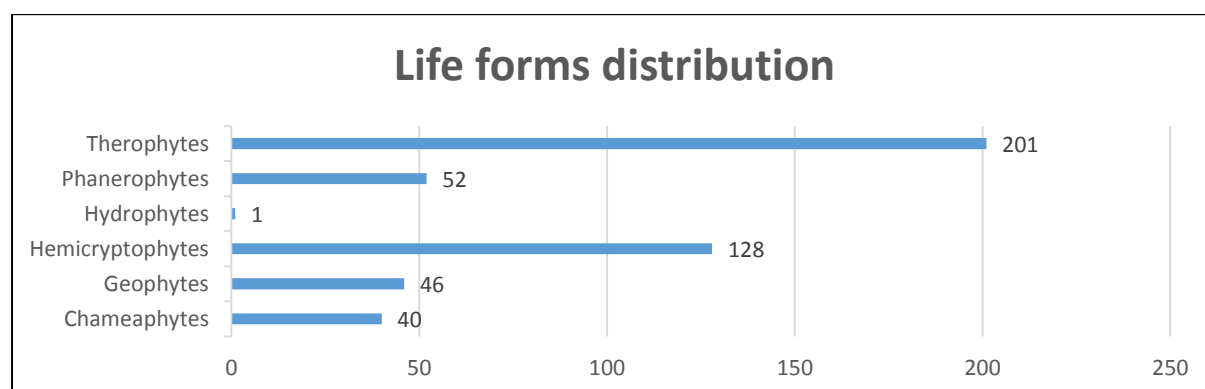


Figure 3: the contribution of life-form recorded in the Dreat mountains.

Biogeographical Distribution

According to Quezel (2000), many chorological elements have helped the establishment of the flora of North Africa: the element of southern origin, the northern element and the autochthonous element. Within the prospected region, the

analysis of the raw phytogeographical spectrum indicates a superiority of the Mediterranean group with 264 species. The pluriregional element (or group with a wide distribution) with 108 species occupies the second chorological position followed by the northern element (Nordic group) with 56 species. Finally, the endemics with 40 species (Figure 4).

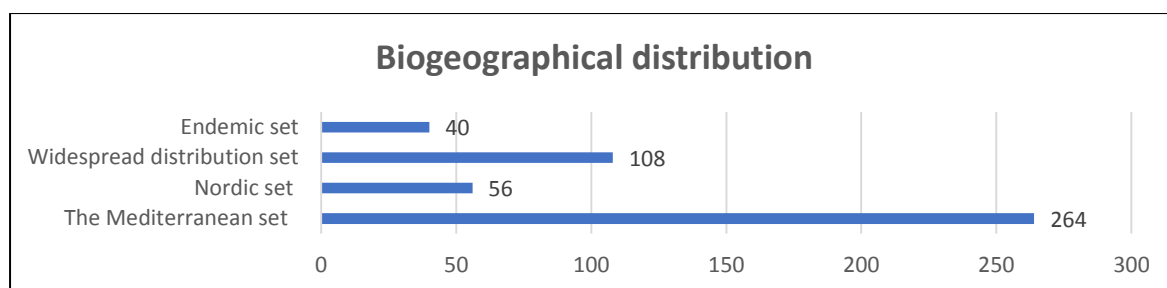


Figure 4: The contribution of the biogeographical unit recorded in the Dreat mountains

Widespread Distribution Set

Species with a wide distribution correspond to transitional elements between the Mediterranean set and nearby sets. The Euro-Mediterranean group has the most species (31), followed by Cosmopolitan (12), Mediterranean-Atlantic (12), and Mediterranean-Touranian (11), which explains the steppe influence on this area. The presence of the Saharan element species shows the Saharan influence on this region. The other batches are presented with fewer than five species.

Endemic Set

The endemic species mark this site well with 40 species, i.e., a rate of 8.54 % of the determined species (468). Vela and Benhouhou (2007) mention 407 endemic species for northern Algeria, 9.82 % of which are found in the explored area. They are divided into the subsequent categories:

Endemic to Algeria

Lamiaceae

Thymus dreatensis Batt, *Stachys guyoniana* de Noé.

Endemic to Algeria and Tunisia

Orchidaceae

Ophrys numida Devillers-Tersch. and Devillers.

Araliaceae

Hedera algeriensis L.

Asteraceae

Centaurea microcarpa Coss. et Dur, *Hertia cheirifolia* (L.) Kuntze, *Scorzonera hispanica* subsp. *coronopifolia* (Desf.) Rouy, *Centaurea parviflora* Desf.

Lamiaceae

Origanum vulgare subsp. *glandulosum* (Desf.) Ietsw.

Endemic to Algeria and Morocco

Anarrhinum fruticosum Desf., *Catananche montana* Coss, *Evacidium discolor* (DC.) Maire, *Pistacia atlantica* Desf.

Endemic to Algeria-Tunisia - Morocco - Libya

Asteraceae

Carthamus pinnatus Desf.

Endemic to Algeria-Tunisia - Morocco - Libya - Mauritania:

Apiaceae

Deverra scoparia Coss. and Durieu.

Endemic to Algeria-Tunisia - Morocco - Libya -Egypte

Hyacinthaceae

Bellevalia mauritanica Pomel.

Endemic to North Africa (area including: Algeria, Tunisia, Morocco, Libya,

Mauritania, Egypte, Canary Islands, and Madeira).

Asteraceae

Centaurea involucrata (Desf.) Talavera,
Centaurea acaulis L. p.p.,
Helminthotheca glomerata (Pomel)
 Greuter.

Brassicaceae

Alyssum scutigerum Dur., *Biscutella raphanifolia* Poir. var. *raphanifolia*,
Psychine stylosa Desf.

Table 3: List of rare species found in the Dreat Mountains: R=rare, QR=quite rare, VR=very rare.

Family	Taxa (Dobignard and Chatelain 2010-2013)	Taxa (Quezel and Santa 1962-1963)	Scarcity (Quezel and Santa)	Life forms
Apiaceae	<i>Eryngium campestre</i> L.	<i>Eryngium campestre</i> L.	QR	He
Apiaceae	<i>Scandicium stellatum</i> (Banks and Sol.) Thell.	<i>Scandix stellatum</i> Soland.	R	Th
Apiaceae	<i>Bupleurum spinosum</i> L.	<i>Bupleurum spinosum</i> L.	R	Ch
Asparagaceae	<i>Asparagus officinalis</i> L.	<i>Asparagus officinalis</i> L.	QR	Ph
Asteraceae	<i>Anthemis pedunculata</i> Desf.	<i>Anthemis pedunculata</i> Desf.	QR	He
Asteraceae	<i>Catananche montana</i> Coss.	<i>Catananche montana</i> Coss.	QR	He
Asteraceae	<i>Centaurea parviflora</i> Desf.	<i>Centaurea parviflora</i> Desf.	QR	Ch
Asteraceae	<i>Evacidium discolor</i> (DC.) Maire	<i>Evax discolor</i> DC.	QR	Th
Asteraceae	<i>Anthemis montana</i> L.	<i>Anthemis montana</i> L.	R	He
Asteraceae	<i>Carthamus pinnatus</i> Desf.	<i>Carduncellus pinnatus</i> (Desf.) DC.	R	He
Asteraceae	<i>Centaurea microcarpa</i> Coss. and Dur.	<i>Centaurea microcarpa</i> Coss. and Dur.	R	He
Asteraceae	<i>Centaurea hyalolepis</i> Boiss.	<i>Centaurea hyalolepis</i> Boiss.	VR	Ch
Brassicaceae	<i>Alyssum atlanticum</i> Desf.	<i>Alyssum montanum</i> Desf.	QR	Th
Brassicaceae	<i>Biscutella raphanifolia</i> Poir. var. <i>raphanifolia</i>	<i>Biscutella raphanifolia</i> Poiret.	QR	Th
Brassicaceae	<i>Erucaria pinnata</i> (Viv.) Täckh. and Boulos	<i>Erucaria uncata</i> (Boiss.) Asch	QR	Th
Brassicaceae	<i>Iberis odorata</i> L.	<i>Iberis odorata</i> L.	QR	Th
Brassicaceae	<i>Lepidium Draba</i> L.	<i>Lepidium Draba</i> L.	QR	He
Brassicaceae	<i>Alyssum scutigerum</i>	<i>Alyssum scutigerum</i> Dur.	R	Th

	Dur.			
Brassicaceae	<i>Draba muralis</i> L.	<i>Draba muralis</i> L.	R	Th
Caryophyllaceae	<i>Spergula pentandra</i> L.	<i>Spergula pentandra</i> L.	R	Th
Caryophyllaceae	<i>Silene secundiflora</i> Otth.	<i>Silene secundiflora</i> Otth.	R	Th
Cistaceae	<i>Helianthemum pilosum</i> (L.) Mill.	<i>Helianthemum pilosum</i> (L.) Pers	QR	Ch
Crassulaceae	<i>Sedum acre</i> L.	<i>Sedum acre</i> subsp. <i>neglectum</i> (Ten) Archang	QR	Th
Crassulaceae	<i>Sedum nevadense</i> Coss.	<i>Sedum nevadense</i> Coss.	VR	Th
Fabaceae	<i>Anthyllis vulneraria</i> L.	<i>Anthyllis vulneraria</i> L subsp. <i>Maura</i> (Beek.) Becker	QR	He
Fabaceae	<i>Erinacea anthyllis</i> Link.	<i>Erinacea anthyllis</i> Link.	QR	Ch
Fabaceae	<i>Hedysarum naudinianum</i> Coss. and Durieu.	<i>Hedysarum naudinianum</i> L. (Coss)	QR	Th
Fabaceae	<i>Genista ulicina</i> Spach.	<i>Genista ulicina</i> Spach.	QR	Ph
Fabaceae	<i>Medicago littoralis</i> Loisel.	<i>Medicago littoralis</i> Rohde.	QR	Th
Fabaceae	<i>Spartium junceum</i> L.	<i>Spartium junceum</i> L.	QR	Ph
Fabaceae	<i>Medicago arabica</i> (L.) Huds.	<i>Medicago arabica</i> (L.)	R	Th
Fabaceae	<i>Medicago minima</i> (L.)	<i>Medicago minima</i> Grufb.	R	Th
Fabaceae	<i>Medicago orbicularis</i> (L.) Bartal.	<i>Medicago orbicularis</i> (L.) All	R	Th
Fabaceae	<i>Medicago truncatula</i> Gaertn.	<i>Medicago truncatula</i> Gaertn.	R	Th
Fabaceae	<i>Melilotus indicus</i> (L.) All.	<i>Melilotus indicus</i> (L.) All.	R	Th
Fabaceae	<i>Trifolium campestre</i> Schreb.	<i>Trifolium campestre</i> Screber (= <i>T. agrarium</i> L.)	R	Th
Fabaceae	<i>Trifolium stellatum</i> L.	<i>Trifolium stellatum</i> L.	R	Th
Fabaceae	<i>Vicia peregrina</i> L.	<i>Vicia peregrina</i> L.	R	Th
Fabaceae	<i>Medicago doliata</i> Carmign.	<i>Medicago doliata</i> Carmign.	VR	Th
Fabaceae	<i>Medicago polymorpha</i> L.	<i>Medicago hispida</i> Gaerth.(= <i>Medicago polymorpha</i> L.)	VR	Th
Fabaceae	<i>Trifolium pratense</i> L.	<i>Trifolium pratense</i> L.	VR	He
Geraniaceae	<i>Erodium crassifolium</i> (Forssk.) L'Hér.	<i>Erodium hirtum</i> Desf.	R	Th

Geraniaceae	<i>Erodium botrys</i> (Cav) Bertol.	<i>Erodium botrys</i> (Cav) Bertol.	R	Th
Iridaceae	<i>Xiphion planifolium</i> Mill.	<i>Iris planifolia</i> (Mill.) Dur. et Sch.	QR	Ge
Lamiaceae	<i>Ajuga chamaepitys</i> Schreber.	<i>Ajuga chamaepitys</i> Schreber.	QR	Ch
Lamiaceae	<i>Marrubium supinum</i> L.	<i>Marrubium supinum</i> L.	R	He
Lamiaceae	<i>Rosmarinus eriocalyx</i> Jord. and Fourr.	<i>Rosmarinus tournefortii</i> Noe.	R	Ph
Lamiaceae	<i>Stachys guyoniana</i> de Noé	<i>Stachys guyoniana</i> de Noé	R	He
Lamiaceae	<i>Teucrium polium</i> L.	<i>Teucrium polium</i> L.	R	Ch
Lamiaceae	<i>Ajuga iva</i> (L.) Schreb.	<i>Ajuga iva</i> (L.) Schreber	VR	Ch
Lamiaceae	<i>Thymus dreatensis</i> Batt.	<i>Thymus dreatensis</i> Batt.	VR	Ch
Liliaceae	<i>Gagea granatellii</i> (Parl.) Parl.	<i>Gagea granatellii</i> (Parl.) Parl.	R	Ge
Linaceae	<i>Linum suffruticosum</i> L.	<i>Linum tenuifolium</i> L.	VR	He
Oléaceae	<i>Fraxinus dimorpha</i> Coss. and Durieu	<i>Fraxinus xanthoxyloides</i> Wall.	R	Ph
Orchidaceae	<i>Androrchis olbiensis</i> (Reut. ex Gren.) D. Tyteca and E. Klein	<i>Orchis mascula</i> L. ssp. <i>olbiensis</i> (Reut.) Asch. and Gr.	QR	Ge
Orchidaceae	<i>Ophrys omegaifera</i> subsp. <i>hayekii</i> (H. Fleischm. ex Soó) Kreutz	<i>Ophrys mirabilis</i> P.Geniez and F. Melki (<i>Ophrys atlantica</i> subsp. <i>hayekii</i> (H. Fleischm. ex Soó) Soó)	QR	Ge
Plantaginaceae	<i>Anarrhinum fruticosum</i> Desf.	<i>Anarrhinum fruticosum</i> Desf.	R	He
Plantaginaceae	<i>Plantago major</i> L. subsp. <i>eu-major</i>	<i>Plantago major</i> L. subsp. <i>eu-major</i>	R	He
Plantaginaceae	<i>Veronica persica</i> Poir.	<i>Veronica persica</i> All.	VR	Th
Polygonaceae	<i>Rumex vesicarius</i> L.	<i>Rumex vesicarius</i> L.	VR	Th
Primulaceae	<i>Androsace maxima</i> L.	<i>Androsace maxima</i> L.	QR	Th
Pteridaceae	<i>Allosorus acrosticus</i> (Balb.) Christenh	<i>Cheilanthes acrostica</i> (Balb.) Tod.	QR	He
Rosaceae	<i>Crataegus azarolus</i> L.	<i>Crataegus azarolus</i> L.	QR	Ph
Rosaceae	<i>Rosa canina</i> L. subsp. <i>pouzinii</i> (Tratt.) Batt.	<i>Rosa pouzini</i> Tratt.	R	Ph
Rubiaceae	<i>Galium setaceum</i> Lamk.	<i>Galium setaceum</i> Lamk.	VR	Th
Solanaceae	<i>Datura inoxia</i> Mill.	<i>Datura meteloides</i> DC	QR	He
Solanaceae	<i>Hyoscyamus albus</i> L.	<i>Hyoscyamus albus</i> L.	R	He

Cistaceae

Helianthemum helianthemoides (Desf.)
 Grosser.

Crassulaceae

Sedum pubescens Vahl.

Fabaceae

Astragalus armatus Willd., *Ebenus pinnata* L, *Genista ulicina* Spach, *Hedysarum naudinianum* Coss. and Durieu, *Genista tricuspidata* Desf.

Geraniaceae

Erodium crassifolium (Forssk.) L'Hér.

Iridaceae

Iris unguicularis Poir.

Lamiaceae

Thymus munbyanus subsp. *ciliatus* (Desf.) Greuter and Burdet, *Thymus algeriensis* Boiss. and Reut., *Thymus pallescens* de Noé, *Rosmarinus eriocalyx* Jord. and Fourr.

Liliaceae

Gagea granatellii (Parl.) Parl.

Oleaceae

Fraxinus dimorpha Coss. & Durieu

Poaceae

Festuca atlantica Duv. Jouve.

Rubiaceae

Galium tunetanum Poiret.

Violaceae

Viola gracilis var. *munbyana* (Boiss. and Reut.) Batt.

Scarcity

According to Vela and Benhouhou's (2007) research on the appraisal of biodiversity in terms of rarity, northern Algeria is home to around 1630 more or less rare taxa, or 4.17 percent of all known species. The Dreat mountains contain 68 rare taxa (Table 3), of which 28 species are quite rare, 28 rare, and 11 very rare, classified into 22 families, according to the flora of Quezel and Santa (1962-1963). The families with the highest proportion of rare taxa are the Fabaceae, which have 17 species, followed by the Asteraceae, which have 8, the Brassicaceae and Lamiaceae, which each have 7 species, and the trispecific Apiaceae, Orchidaceae, and Plantaginaceae. The other families are represented by only 1 to 2. Biologically, therophytes (30 taxa) are dominant, followed by hemicryptophytes (12 taxa). The other biological types (chamephytes, phanerophyte geophytes) include 4 to 3 rare taxa.

CONCLUSION

The analysis of the floristic diversity of the Monts de Dreat reveals a rich and diversified flora (468 species) which belongs to 278 genera and 66 families of vascular plants. The Asteraceae, Fabaceae, Poaceae, Brassicaceae, and Lamiaceae families are the most well-represented at both the specific and generic levels. Many endangered and rare species are included in the floristic list, particularly those from the Orchidaceae family, which consists of 10 taxa and three genera (*Androrchis*, *Orchis*, *Ophrys*).

In addition, it appears that therophytes prevail with 201 taxa out of the 468 taxa inventoried. The high rate of therophytes indicates a characteristic of

Mediterranean and dry regions that experience severe water stress. Additionally, anthropogenic involvement could be another source of this therophytization (Daget, 1980; Madon and Médail, 1996).

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AUTHORS CONTRIBUTION

Nabila Ouadeh and Khellaf Rebbas: Field trip and data collection, Data interpretation, Writing the article, Revision of the article and final approval of the article.

CONFLICT OF INTERESTS

No conflicts of interest to declare.

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Appendix 1: Checklist of the Dreat Mountains vascular flora

Families	Taxa according to Dobignard and Chatelain (2010-2013)	Taxa according to Quezel and Santa (1962-1963)	Chorological types (Quezel and Santa 1962-1963)	Lifeform
Araliaceae	<i>Hedera algeriensis</i> L.	<i>Hedera algeriensis</i> Hibberd	Algerian -Tunisian Endemic	Phanerophytes
Aizoaceae	<i>Aizoanthemum hispanicum</i> (L.) H.E.K.Hartmann	<i>Aizoon hispanicum</i> L.	Circum-mediterranean	Therophytes
Amaranthaceae	<i>Spinacia oleracea</i> L.	<i>Spinacia oleracea</i> L.	Cultivated	Hemicryptophytes
Amaranthaceae	<i>Atriplex halimus</i> L.	<i>Atriplex halimus</i> L.	Circum-mediterranean	Phanerophytes
Amaryllidaceae	<i>Allium cyrilli</i> Ten	<i>Allium cyrilli</i> Ten	Cultivated	Geophytes
Amaryllidaceae	<i>Allium sativum</i> L.	<i>Allium sativum</i> L.	Euro-Mediterranean	Geophytes
Amaryllidaceae	<i>Narcissus tazetta</i> L.	<i>Narcissus tazetta</i> L.subsp. <i>Bertolonii</i> (Parl.) Baker	Euro-Mediterranean	Geophytes
Amaryllidaceae	<i>Allium ampeloprasum</i> L.	<i>Allium ampeloprasum</i> L.	Mediterranean	Geophytes

Amaryllidaceae	<i>Allium cepa</i> L.	<i>Allium cepa</i> L.	Cutivated	Geophytes
Amaryllidaceae	<i>Allium Chamaemoly</i> L.	<i>Allium Chamaemoly</i> L.	Mediterranean	Geophytes
Amaryllidaceae	<i>Allium cupanii</i> Raf.	<i>Allium cupanii</i> Raf.	East Mediterranean	Geophytes
Amaryllidaceae	<i>Allium flavum</i> L.	<i>Allium flavum</i> L.	Mediterranean	Geophytes
Amaryllidaceae	<i>Allium multiflorum</i> Desf.	<i>Allium rotundum</i> L. ssp. <i>multiflorum</i> (Desf.) Rouy	Mediterranean	Geophytes
Amaryllidaceae	<i>Allium nigrum</i> L.	<i>Allium nigrum</i> L.	Mediterranean	Geophytes
Amaryllidaceae	<i>Allium roseum</i> L.	<i>Allium roseum</i> L. subsp. <i>eu-roseum</i> Vindt.	Mediterranean	Geophytes
Amaryllidaceae	<i>Allium paniculatum</i> L.	<i>Allium paniculatum</i> L.var. <i>typicum</i> Regel emend Vindt.	Paleo-temperate	Geophytes
Anacardiaceae	<i>Searsia tripartita</i> (Ucria) Moffet	<i>Rhus tripartia</i> (Ucria) DC (= <i>Rhus oxyacantha</i> Schousb)	Sah-Mediterranean	Phanerophytes
Anacardiaceae	<i>Pistacia atlantica</i> Desf	<i>Pistacia atlantica</i> Desf	End Alg-Mor.	Phanerophytes
Anacardiaceae	<i>Pistacia lentiscus</i> L.	<i>Pistacia lentiscus</i> L.	Mediterranean	Phanerophytes
Apiaceae	<i>Deverra scoparia</i> Coss. and Durieu	<i>Pituranthos scoparius</i> (Coss et Dur) Benth et Hook	End Alg-Tun-Mor-Lib-Mau.	Chameaphytes
Apiaceae	<i>Bupleurum spinosum</i> L.	<i>Bupleurum spinosum</i> L.	Ibero-mauritanian	Chameaphytes
Apiaceae	<i>Bunium pachypodum</i> P.W. Ball	<i>Bunium incrassatum</i> (Boiss.) Batt. et Rab.	Western Mediterranean	Geophytes
Apiaceae	<i>Eryngium campestre</i> L.	<i>Eryngium campestre</i> L.	Euro-Mediterranean	Hemicryptophytes
Apiaceae	<i>Eryngium tricuspidatum</i> L.	<i>Eryngium tricuspidatum</i> L.subsp. <i>eu-tricuspidatum</i> Maire	Western Mediterranean	Hemicryptophytes
Apiaceae	<i>Eryngium triquetrum</i> Vahl. subsp. <i>triquetrum</i>	<i>Eryngium triquetrum</i> Vahl.	North Africa-Sicily	Hemicryptophytes
Apiaceae	<i>Ferula communis</i> subsp. <i>communis</i> L.	<i>Ferula communis</i> L.	Mediterranean	Hemicryptophytes
Apiaceae	<i>Anethum foeniculum</i> L.	<i>Foeniculum vulgare</i> (Miller.) Gaertn.Ch	Mediterranean	Hemicryptophytes
Apiaceae	<i>Kundmannia sicula</i> (L.) DC.	<i>Kundmannia sicula</i> (L.) DC.	Mediterranean	Hemicryptophytes
Apiaceae	<i>Smyrnum olusatrum</i> L.	<i>Smyrnum olusatrum</i> L.	Mediterranean	Hemicryptophytes
Apiaceae	<i>Thapsia garganica</i> L.	<i>Thapsia garganica</i> L.	Mediterranean	Hemicryptophytes
Apiaceae	<i>Thapsia villosa</i> L.	<i>Thapsia villosa</i> L.	Mediterranean	Hemicryptophytes
Apiaceae	<i>Scandix pecten-Veneris</i> L.	<i>Scandix pecten-Veneris</i> L.	Euro-Mediterranean	Therophytes
Apiaceae	<i>Ammoides pusilla</i> (Brot.) Breistr	<i>Ammoides verticillata</i> (Desf) Briq = <i>A.pusilla</i> (Brot) Breistr	Mediterranean	Therophytes
Apiaceae	<i>Eryngium ilicifolium</i> Lamk	<i>Eryngium ilicifolium</i> Lamk	Ibero-mauritanian	Therophytes
Apiaceae	<i>Scandicum stellatum</i> (Banks and Sol.) Thell.	<i>Scandix stellatum</i> Soland.	Mediterranean	Therophytes
Apiaceae	<i>Scandix australis</i> L.	<i>Scandix australis</i> L.	Mediterranean	Therophytes
Apiaceae	<i>Torilis arvensis</i> (Huds.) Link.	<i>Torilis arvensis</i> (Huds.) Link.	Paleo-temperate	Therophytes
Apiaceae	<i>Torilis nodosa</i> Gaertn.	<i>Torilis nodosa</i> Gaertn.	Eurasian	Therophytes
Apocynaceae	<i>Vinca difformis</i> Pourr.	<i>Vinca difformis</i> Pourr.	Western Mediterranean	Chameaphytes
Apocynaceae	<i>Nerium oleander</i> L.	<i>Nerium oleander</i> L.	Mediterranean	Phanerophytes
Araceae	<i>Arisarum vulgare</i> Targ. Tozz.	<i>Arisarum vulgare</i> Targ. Tozz.	Circum-Mediterranean	Geophytes
Araceae	<i>Biarum dispar</i> (Schott) Talavera	<i>Biarum bovei</i> Blume subsp. <i>dispar</i> (Schott.)	Western Mediterranean	Geophytes
Asparagaceae	<i>Asparagus albus</i> L.	<i>Asparagus albus</i> L.	Western Mediterranean	Phanerophytes

Asparagaceae	<i>Asparagus acutifolius</i> L.	<i>Asparagus acutifolius</i> L.	Mediterranean	Phanerophytes
Asparagaceae	<i>Asparagus officinalis</i> L.	<i>Asparagus officinalis</i> L.	Eurasian	Phanerophytes
Aspleniaceae	<i>Asplenium ceterach</i> L.	<i>Ceterach officinarum</i> Lamk.	Eury-mediterranean	Hemicryptophytes
Asteraceae	<i>Artemisia herba-alba</i> Asso.	<i>Artemisia herba-alba</i> Asso.	Circum-mediterranean	Chameaphytes
Asteraceae	<i>Atractylis serratuloides</i> Sieb. ex Cass	<i>Atractylis serratuloides</i> Sieb	Sah	Chameaphytes
Asteraceae	<i>Launaea lanifera</i> Pau	<i>Launaea acanthoclada</i> M.	Ibero-Mauritanian-Macar	Chameaphytes
Asteraceae	<i>Centaurea parviflora</i> Desf	<i>Centaurea parviflora</i> Desf	Algerian -Tunusian Endemic	Chameaphytes
Asteraceae	<i>Centaureahyalolepis</i> Boiss.	<i>Centaurea hyalolepis</i> Boiss.	Mediterranean	Chameaphytes
Asteraceae	<i>Phagnalon saxatile</i> (L) .Cass	<i>Phagnalon saxatile</i> (L) Cass	Western Mediterranean	Chameaphytes
Asteraceae	<i>Artemisia campestris</i> L.	<i>Artemisia campestris</i> L.	Circum-Boreal	Chameaphytes
Asteraceae	<i>Pseudopodospermum undulatum</i> (Vahl) Zaika, Sukhor. and Kilian	<i>Scorzonera undulata</i> Vahl.	Mediterranean	Geophytes
Asteraceae	<i>Anthemis pedunculata</i> Desf.	<i>Anthemis pedunculata</i> Desf.	Ibero-Mauritanian	Hemicryptophytes
Asteraceae	<i>Carduus macrocephalus</i> Desf.	<i>Carduus nutans</i> L. subsp. <i>macrocephalus</i> (Desf.)	Euro-Sib N.Africa	Hemicryptophytes
Asteraceae	<i>Centaurea calcitrapa</i> (L.) Hill	<i>Centaurea calcitrapa</i> L	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Chondrilla juncea</i> L.	<i>Chondrilla juncea</i> L.	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Cichorium intybus</i> L.	<i>Cichorium intybus</i> L.	Cosmopolitan	Hemicryptophytes
Asteraceae	<i>Hyoseris radiata</i> L.	<i>Hyoseris radiata</i> L.	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Kentrophyllum lanatum</i> (L.) Duby	<i>Carthamus lanatus</i> L.	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Mantisalca salmantica</i> L. Briq. et Cavillier	<i>Mantisalca salmantica</i> L. Briq. et Cavillier	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Onopordum horridum</i> Viv.	<i>Onopordon acanthium</i> L. subsp. <i>horridum</i> (Viv.) P.Fourn.	SubMediterranean-Euras	Hemicryptophytes
Asteraceae	<i>Pentanema montanum</i> (L.) D. Gut.Larr., Santos-Vicente and al.	<i>Inula montana</i> L.	Western-Mediterranean-Sub-Atlantic	Hemicryptophytes
Asteraceae	<i>Pilosella pseudopilosella</i> (Ten.) Soják	<i>Hieracium pseudo-pilosella</i> Ten. subsp. <i>atlantis</i> Zahn.	Euro-Mediterranean	Hemicryptophytes
Asteraceae	<i>Pulicaria inuloides</i> (Poir.) DC	<i>Pulicaria arabica</i> subsp. <i>inuloides</i> (DC) M.	Nourthern africa-Arabia	Hemicryptophytes
Asteraceae	<i>Silybum Marianum</i> (L.) Gaertn.	<i>Silybum Marianum</i> (L.) Gaertn.	Cosmopolitan	Hemicryptophytes
Asteraceae	<i>Sonchus maritimus</i> L.	<i>Sonchus maritimus</i> L.	Euras-Circum-Mediterranean	Hemicryptophytes
Asteraceae	<i>Catananche montana</i> Coss.	<i>Catananche montana</i> Coss.	Algerian-Maroccan Endemic	Hemicryptophytes
Asteraceae	<i>Centaurea involucrata</i> (Desf.) Talavera	<i>Centaurea involucrata</i> Desf.	Endemic to North of Africa	Hemicryptophytes
Asteraceae	<i>Centaurea acaulis</i> L. p.p.	<i>Centaurea acaulis</i> L. p.p.	Endemic to North of Africa	Hemicryptophytes
Asteraceae	<i>Centaurea microcarpa</i> Coss. et Dur.	<i>Centaurea microcarpa</i> Coss. et Dur.	Algerian -Tunusian Endemic	Hemicryptophytes
Asteraceae	<i>Helminthotheca glomerata</i> (Pomel) Greuter	<i>Picris duriyai</i> Sch.Bip	Endemic to North of Africa	Hemicryptophytes
Asteraceae	<i>Hertia cheirifolia</i> (L.) Kuntze	<i>Hertia cheirifolia</i> (L.) Kuntze	Algerian -Tunusian Endemic	Hemicryptophytes

Asteraceae	<i>Scorzonera hispanica</i> subsp. <i>coronopifolia</i> (Desf.) Rouy	<i>Scorzonera coronopifolia</i> Desf.	Algerian -Tunisian Endemic	Hemicryptophytes
Asteraceae	<i>Anthemis montana</i> L.	<i>Anthemis montana</i> L.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Carthamus caeruleus</i> L.	<i>Carthamus caeruleus</i> L.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Carlina gummifera</i> (L.) Less	<i>Atractylis gummifera</i> L (= <i>Carlina gummifera</i> DC)	Mediterranean	Hemicryptophytes
Asteraceae	<i>Carlina lanata</i> L.	<i>Carlina lanata</i> L.	Mediterranean	Therophytes
Asteraceae	<i>Carlina racemosa</i> L.	<i>Carlina racemosa</i> L.	Iberian North Africa	Hemicryptophytes
Asteraceae	<i>Carthamus pinnatus</i> Desf.	<i>Carduncellus pinnatus</i> (Desf.) DC.	End Alg-Tun-Mor-Lib	Hemicryptophytes
Asteraceae	<i>Catananche caerulea</i> L	<i>Catananche caerulea</i> L	Western Mediterranean	Hemicryptophytes
Asteraceae	<i>Centaurea pullata</i> L	<i>Centaurea pullata</i> L.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Cynara cardunculus</i> L.	<i>Cynara cardunculus</i> L.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Dittrichia graveolens</i> (L.) Greuter	<i>Inula graveolens</i> (L.) Desf.	Eury- Mediterranean	Therophytes
Asteraceae	<i>Dittrichia viscosa</i> (L.) Greuter	<i>Inula viscosa</i> (L.) Ait.	Circum-Mediterranean	Hemicryptophytes
Asteraceae	<i>Hypochaeris radicata</i> L	<i>Hypochaeris radicata</i> L	Eury- Mediterranean	Hemicryptophytes
Asteraceae	<i>Jurinea humilis</i> D.C	<i>Jurinea humilis</i> D.C	Western Mediterranean	Hemicryptophytes
Asteraceae	<i>Onopordum macracanthum</i> Schousb.	<i>Onopordon macracanthum</i> Schousb.	Ibero-Mauritanian.	Hemicryptophytes
Asteraceae	<i>Picnomon acarna</i> (L.) Cass.	<i>Cirsium acarna</i> (L.) Moench	Mediterranean	Hemicryptophytes
Asteraceae	<i>Podospermum laciniatum</i> (L.) DC	<i>Scorzonera laciniata</i> L.	Sub- Mediterranean	Hemicryptophytes
Asteraceae	<i>Reichardia tingitana</i> (L.) Roth	<i>Scorzonera tingitana</i> L.R	Mediterranean	Hemicryptophytes
Asteraceae	<i>Rhaponticoides africana</i> (Lam.) M.V. Agab. and Greuter	<i>Centaurea africana</i> Lamk. var. <i>tagana</i> (Brot.) M.	Iberian, North Africa, Sicily	Hemicryptophytes
Asteraceae	<i>Rhaponticum acaule</i> (L.) DC.	<i>Rhaponticum acaule</i> (L.) DC.	Subend. Tyrrhenian	Hemicryptophytes
Asteraceae	<i>Scolymus hispanicus</i> L.	<i>Scolymus hispanicus</i> L.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Scolymus maculatus</i> L.	<i>Scolymus maculatus</i> L.	Circum-Mediterranean	Hemicryptophytes
Asteraceae	<i>Scorzoneroidea hispidula</i> (Delile) Greuter and Talavera	<i>Leontodon hispidulus</i> (Del.) Boiss.	Mediterranean	Hemicryptophytes
Asteraceae	<i>Taraxacum obovatum</i> (Willd.) DC.	<i>Taraxacum obovatum</i> wild.	Western Mediterranean	Hemicryptophytes
Asteraceae	<i>Crepis vesicaria</i> L.	<i>Crepis vesicaria</i> L.	Euro-Mediterranean	Therophytes
Asteraceae	<i>Bombycilaena discolor</i> (Pers.) M. Lainz	<i>Micropus bombycinus</i> Lag. (= <i>Bombycilaena discolor</i> (Pers.) Lainz.)	Eury- Mediterranean	Therophytes
Asteraceae	<i>Echinops spinosissimus</i> subsp. <i>bovei</i> (Boiss.) Greuter	<i>Echinops spinosus</i> L subsp. <i>Bovei</i> (Boiss.) Maire	South. Mediterranean-Sah	Therophytes
Asteraceae	<i>Glebionis coronaria</i> (L.) Spach	<i>Chrysanthemum coronarium</i> L.	Cosmopolitan	Therophytes
Asteraceae	<i>Launaea nudicaulis</i> (L.) Hook.f.	<i>Launaea nudicaulis</i> (L.) Hook.f.	Mediterranean-Sahara - Sind	Therophytes
Asteraceae	<i>Matricaria chamomilla</i> L.	<i>Matricaria chamomilla</i> L.	Euras-Macar- Mar	Therophytes
Asteraceae	<i>Otoglyphis pubescens</i> (Desf.) Pomel	<i>Matricaria pubescens</i> (Desf.) Sch.Bip(= <i>Aaronsohnia pubescens</i> subsp. <i>maroccana</i>)	Sah	Therophytes
Asteraceae	<i>Pallenis cuspidata</i> Pomel	<i>Pallenis spinosa</i> subsp. <i>cuspidata</i> (Pomel) Batt	Euro-Mediterranean	Therophytes

Asteraceae	<i>Pallenis hierichuntica</i> (Michon) Greuter	<i>Asteriscus pygmaeus</i> Coss et Kral	Sah-Sind	Therophytes
Asteraceae	<i>Senecio vulgaris</i> L.	<i>Senecio vulgaris</i> L.	Sub-cosmopolitan	Therophytes
Asteraceae	<i>Sonchus oleraceus</i> L	<i>Sonchus oleraceus</i> L	Cosmopolitan	Therophytes
Asteraceae	<i>Urospermum picroides</i> (L) Schmidt	<i>Urospermum picroides</i> (L) Schmidt	Euro-Mediterranean	Therophytes
Asteraceae	<i>Xeranthemum inapertum</i> (L.) Mill.	<i>Xeranthemum inapertum</i> (L.) Mill	Sub-cosmopolitan	Therophytes
Asteraceae	<i>Evacidium discolor</i> (DC.) Maire	<i>Evax discolor</i> DC.	Algerian-Maroccan Endemic	Therophytes
Asteraceae	<i>Atractylis caespitosa</i> Desf	<i>Atractylis humilis</i> L	Ibero-Mauritanian	Therophytes
Asteraceae	<i>Atractylis cancellata</i> (L) P.	<i>Atractylis cancellata</i> (L) P.	Circum-Mediterranean	Therophytes
Asteraceae	<i>Bellis annua</i> L.	<i>Bellis annua</i> L.subsp. <i>minuta</i> (DC.) Q. et S.	Circum-Mediterranean	Therophytes
Asteraceae	<i>Bellis sylvestris</i> L.	<i>Bellis sylvestris</i> L. var. <i>rotundifolia</i> (E. et R) Batt.	Mediterranean	Hémicryptophytes
Asteraceae	<i>Calendula arvensis</i> L.	<i>Calendula arvensis</i> L. subsp. <i>communis</i> Emb. et M	Sub-Mediterranean	Therophytes
Asteraceae	<i>Carduus leptocladus</i> Durieu	<i>Carduus pteracanthus</i> Dur.var. <i>leptocladus</i> (Dur.) Batt.	Ibero-Mauritanian	Therophytes
Asteraceae	<i>Centaurea melitensis</i> L	<i>Centaurea melitensis</i> L	Circum-Mediterranean	Therophytes
Asteraceae	<i>Coleostephus myconis</i> (L.) Rchb. F	<i>Chrysanthemum myconis</i> L (= <i>Coleostephus myconis</i> (L.) Reichenb.Fil)	Mediterranean	Therophytes
Asteraceae	<i>Crupina cruspinastrum</i> Vis	<i>Crupina Cruspinastrum</i> Vis.	Mediterranean	Therophytes
Asteraceae	<i>Filago pygmaea</i> L.	<i>Evax pygmaea</i> (L).Brot	Circum-Mediterranean	Therophytes
Asteraceae	<i>Filago pyramidata</i> L.	<i>Filago spathulata</i> Presl (= <i>Filago pyramidata</i> L).	Mediterranean	Therophytes
Asteraceae	<i>Galactites tomentosus</i> (L) Moench	<i>Galactites tomentosus</i> (L) Moench	Circum -Mediterranean	Therophytes
Asteraceae	<i>Hedypnois rhagadioloides</i> (L.) F.W. Schmidt	<i>Hedypnois cretica</i> (L.) Willd	Mediterranean	Therophytes
Asteraceae	<i>Hypochaeris achyrophorus</i> L.	<i>Hypochaeris achyrophorus</i> L	Circum-Mediterranean	Therophytes
Asteraceae	<i>Reichardia tingitana</i> (L.) Roth	<i>Reichardia picroides</i> (L.) Roth	Mediterranean	Therophytes
Asteraceae	<i>Sonchus tenerrimus</i> L.	<i>Sonchus tenerrimus</i> L. subsp. <i>eu-tenerrimus</i> M.	Mediterranean	Therophytes
Asteraceae	<i>Tragopogon porrifolius</i> L.	<i>Tragopogon porrifolius</i> L.	Circum-Mediterranean	Therophytes
Asteraceae	<i>Carduus pycnocephalus</i> L.	<i>Carduus pycnocephalus</i> L.subsp. <i>tenuiflorus</i> (Curt.) Batt.	Eurasian	Therophytes
Asteraceae	<i>Anacyclus clavatus</i> Desf	<i>Anacyclus clavatus</i> Desf	Euro-Mediterranean	Therophytes
Borraginaceae	<i>Anchusa italica</i> Retz	<i>Anchusa azurea</i> Mill.	Euro-Mediterranean	Hemicryptophytes
Borraginaceae	<i>Anchusa undulata</i> L.	<i>Anchusa undulata</i> L.	Mediterranean	Hemicryptophytes
Borraginaceae	<i>Cynoglossum cheirifolium</i> L	<i>Cynoglossum cheirifolium</i> L.	Mediterranean	Hemicryptophytes
Borraginaceae	<i>Cynoglossum creticum</i> Miller	<i>Cynoglossum creticum</i> Miller	Mediterranean	Hemicryptophytes
Borraginaceae	<i>Echium asperrimum</i> Lam.	<i>Echium italicum</i> L.	Mediterranean	Hemicryptophytes
Borraginaceae	<i>Echium creticum</i> L.	<i>Echium australe</i> Lam.	Western Mediterranean	Hemicryptophytes
Borraginaceae	<i>Echium plantagineum</i> L.	<i>Echium plantagineum</i> L.	Mediterranean	Hemicryptophytes

Borraginaceae	<i>Alkanna tinctoria</i> Tausch subsp. <i>tinctoria</i>	<i>Alkanna tinctoria</i> (L.) Tausch	Mediterranean	Therophytes
Borraginaceae	<i>Borago officinalis</i> L	<i>Borago officinalis</i> L	Western Mediterranean	Therophytes
Borraginaceae	<i>Lithospermum apulum</i> L. Vahl	<i>Lithospermum apulum</i> (L.) Vahl	Mediterranean	Therophytes
Borraginaceae	<i>Lithospermum arvense</i> L.	<i>Lithospermum arvense</i> L.	Mediterranean	Therophytes
Borraginaceae	<i>Myosotis collina</i> Hoffm	<i>Myosotis collina</i> Hoffm.	Mediterranean	Therophytes
Brassicaceae	<i>Nasturtium officinale</i> R.Br.	<i>Rorippa nasturtium-</i> <i>aquaticum</i> (L.) Hayek	Cosmopolitan	Hydrophytes
Brassicaceae	<i>Lobularia maritima</i> (L.) Desv.	<i>Lobularia maritima</i> (L.) Desv	Mediterranean	Chamaephytes
Brassicaceae	<i>Matthiola fruticulosa</i> L.	<i>Matthiola fruticulosa</i> (L.) Maire.	Mediterranean	Hemicryptophytes
Brassicaceae	<i>Lepidium draba</i> L.	<i>Lepidium draba</i> L.	Eurasian	Hemicryptophytes
Brassicaceae	<i>Diplotaxis harra</i> (Frosk) Boiss.	<i>Diplotaxis harra</i> (Frosk) Boiss.	Mediterranean-Irano- Touranian.	Therophytes
Brassicaceae	<i>Erucaria pinnata</i> (Viv.) Täckh. and Boulos	<i>Erucaria uncata</i> (Boiss.) Asch	Sah-Sind	Therophytes
Brassicaceae	<i>Moricandia arvensis</i> (L.) DC.	<i>Moricandia arvensis</i> (L.) DC. subsp. <i>arvensis</i> Maire	Mediterranean-Sahara- sind	Therophytes
Brassicaceae	<i>Noccaea perfoliata</i> (L.) Al-Shehbaz	<i>Thlaspi perfoliatum</i> L.	Euro-Mediterranean	Therophytes
Brassicaceae	<i>Alyssum scutigerum</i> Dur.	<i>Alyssum scutigerum</i> Dur.	Endemic to North of Africa	Therophytes
Brassicaceae	<i>Biscutella raphanifolia</i> Poir. var. <i>raphanifolia</i>	<i>Biscutella raphanifolia</i> Poir.	Endemic to North of Africa	Therophytes
Brassicaceae	<i>Psychine stylosa</i> Desf.	<i>Psychine stylosa</i> Desf.	Endemic to North of Africa	Therophytes
Brassicaceae	<i>Alyssum atlanticum</i> Desf.	<i>Alyssum montanum</i> Desf.	Oro-Méd	Therophytes
Brassicaceae	<i>Biscutella didyma</i> L	<i>Biscutella didyma</i> L	Mediterranean	Therophytes
Brassicaceae	<i>Carrichtera annua</i> (L.) DC.	<i>Vella annua</i> L.	Mediterranean	Therophytes
Brassicaceae	<i>Diplotaxis virgata</i> (Cav.) DC. subsp. <i>Virgata</i>	<i>Diplotaxis virgata</i> (Cav.) DC	Ibero-Mauritanian	Therophytes
Brassicaceae	<i>Eruca vesicaria</i> (L.) Cav.	<i>Eruca vesicaria</i> (L.) Cav.	Mediterranean	Therophytes
Brassicaceae	<i>Guenthera amplexicaulis</i> (Desf.) Gómez-Campo	<i>Brassica amplexicaulis</i> (Desf.) Pomel. (= <i>Brassica</i> <i>souliel</i> subsp. <i>amplexicaulis</i> (Desf.) Greuter et Burdet).	North Africa-Sicily	Therophytes
Brassicaceae	<i>Iberis odorata</i> L.	<i>Iberis odorata</i> L.	East Mediterranean	Therophytes
Brassicaceae	<i>Myagrurn rugosum</i> L.	<i>Rapistrum rugosum</i> (L.) All. subsp. <i>Rugosum</i> Thell.	Mediterranean	Therophytes
Brassicaceae	<i>Raphanus raphanistrum</i> L.	<i>Raphanus raphanistrum</i> L.	Mediterranean	Therophytes
Brassicaceae	<i>Sinapis pubescens</i> L.	<i>Sinapis pubescens</i> L. subsp. <i>pubescens</i> Maire et Weiller	Western Mediterranean	Therophytes
Brassicaceae	<i>Thlaspi bursa-pastoris</i> L.	<i>Capsella bursa-pastoris</i> L	Mediterranean	Therophytes
Brassicaceae	<i>Alyssum granatense</i> Boiss et Reut.	<i>Alyssum granatense</i> Boiss et Reut.	Eurasian	Therophytes
Brassicaceae	<i>Draba muralis</i> L.	<i>Draba muralis</i> L.	Eurasian	Therophytes
Brassicaceae	<i>Sinapis arvensis</i> L.	<i>Sinapis arvensis</i> L.	Paleo-temperate	Therophytes
Brassicaceae	<i>Sinapis alba</i> L. subsp. <i>alba</i>	<i>Sinapis alba</i> L.	Paleo-temperate	Therophytes
Cactaceae	<i>Opuntia ficus-indica</i> (L.) Mill	<i>Opuntia ficus-indica</i> (L.) Mill	Cosmopolitan	Phanerophytes

Caryophyllaceae	<i>Herniaria fontanesii</i> J. Gay	<i>Herniaria fontanesii</i> Gray	Ibero-Mauritanian	Hemicryptophytes
Caryophyllaceae	<i>Paronychia argentea</i> Lam.	<i>Paronychia argentea</i> (Pourr.) Lamk.	Mediterranean	Hemicryptophytes
Caryophyllaceae	<i>Silene muscipula</i> L. subsp. <i>eu-muscipula</i> Maire.	<i>Silene muscipula</i> L. subsp. <i>eu-muscipula</i> Maire.	Mediterranean	Hemicryptophytes
Caryophyllaceae	<i>Minuartia hybrida</i> (Vill.) Schischk.	<i>Minuartia tenuifolia</i> (L.) Hiern.	Euro-Mediterranean	Therophytes
Caryophyllaceae	<i>Spergula pentandra</i> L.	<i>Spergula pentandra</i> L.	Mediterranean-Atlantic	Therophytes
Caryophyllaceae	<i>Minuartia campestris</i> L.	<i>Minuartia campestris</i> L.	Ibero-Mauritanian	Therophytes
Caryophyllaceae	<i>Polycarpon tetraphyllum</i> L.	<i>Polycarpon tetraphyllum</i> L.	Mediterranean	Therophytes
Caryophyllaceae	<i>Silene coeli-rosa</i> (L.) A. Br.	<i>Silene coeli-rosa</i> (L.) A. Br.	Western Mediterranean	Therophytes
Caryophyllaceae	<i>Silene laeta</i> (Aiton) A. Braun.	<i>Silene laeta</i> (Aiton) A. Braun.	Mediterranean	Therophytes
Caryophyllaceae	<i>Silene nocturna</i> L.	<i>Silene nocturna</i> L.	Mediterranean	Therophytes
Caryophyllaceae	<i>Silene rubella</i> L.	<i>Silene rubella</i> L.	Mediterranean	Therophytes
Caryophyllaceae	<i>Silene secundiflora</i> Otth.	<i>Silene secundiflora</i> Otth.	Ibero-Mauritanian	Therophytes
Caryophyllaceae	<i>Silene colorata</i> subsp. <i>trichocalycina</i> Fenzl	<i>Silene colorata</i> subsp. <i>trichocalycina</i> Fenzl	Mediterranean	Therophytes
Caryophyllaceae	<i>Silene vulgaris</i> (Moench) Garcke	<i>Silene cucubalus</i> Wibel. subsp. <i>angustifolia</i> (Guss.) Hyek	Western Mediterranean	Therophytes
Caryophyllaceae	<i>Silene gallica</i> L.	<i>Silene gallica</i> L.	Paleo-temperate	Therophytes
Cistaceae	<i>Fumana thymifolia</i> (L.) Webb	<i>Fumana thymifolia</i> (L.) Verlot.	Eurasian-Africa-sept	Chameaphytes
Cistaceae	<i>Helianthemum cinereum</i> (Cav.) Pers.	<i>Helianthemum cinereum</i> (Cav.) Pers	European meridional-north Africa	Chameaphytes
Cistaceae	<i>Helianthemum helianthemoides</i> (Desf.) Grosser	<i>Helianthemum helianthemoides</i> (Desf.) Grosser (= <i>Helianthemum vulgare</i> Pers. (P.)	Endemic to North of Africa	Chameaphytes
Cistaceae	<i>Cistus libanotis</i> L.	<i>Cistus libanotis</i> L.	Ibero-Balearic-Sicily-NA	Chameaphytes
Cistaceae	<i>Helianthemum croceum</i> (Desf.) Pers.	<i>Helianthemum croceum</i> (Desf.) Pers.	Western Mediterranean	Chameaphytes
Cistaceae	<i>Helianthemum pilosum</i> (L.) Mill.	<i>Helianthemum pilosum</i> (L.) Pers	Mediterranean stricto sensu	Chameaphytes
Cistaceae	<i>Helianthemum virgatum</i> (Desf.) Pers.	<i>Helianthemum virgatum</i> (Desf.) Pers.	Ibero-Mauritanian	Hemicryptophytes
Cistaceae	<i>Cistus monspeliensis</i> L.	<i>Cistus monspeliensis</i> L.	Eurasian-Mediterranean	Phanerophytes
Cistaceae	<i>Cistus albidus</i> L.	<i>Cistus albidus</i> L.	Western Mediterranean	Phanerophytes
Cistaceae	<i>Cistus creticus</i> L.	<i>Cistus villosus</i> L.	Mediterranean	Phanerophytes
Cistaceae	<i>Cistus salvifolius</i> L.	<i>Cistus salvifolius</i> L.	Mediterranean	Phanerophytes
Cistaceae	<i>Helianthemum ledifolium</i> (L.) Mill.	<i>Helianthemum ledifolium</i> (L.) Mill.	Canary Islands, Eurasian, Northern Africa	Therophytes
Convolvulaceae	<i>Convolvulus arvensis</i> L.	<i>Convolvulus arvensis</i> L.	Eurasian	Geophytes
Convolvulaceae	<i>Convolvulus althaeoides</i> L.	<i>Convolvulus althaeoides</i> L.	Macar-Mediterranean	Hemicryptophytes
Convolvulaceae	<i>Convolvulus lineatus</i> L.	<i>Convolvulus lineatus</i> L.	Mediterranean	Hemicryptophytes
Convolvulaceae	<i>Cuscuta epithymum</i> L.	<i>Cuscuta epithymum</i> L.	Cosmopolitan	Therophytes
Convolvulaceae	<i>Convolvulus tricolor</i> L.	<i>Convolvulus tricolor</i> L.	Mediterranean	Therophytes

Crassulaceae	<i>Sedum dasyphyllum</i> L.	<i>Sedum dasyphyllum</i> L.	Western Mediterranean	Chameaphytes
Crassulaceae	<i>Sedum sediforme</i> (Jacq.) Pau	<i>Sedum nicaeense</i> All.	Mediterranean	Chameaphytes
Crassulaceae	<i>Sedum album</i> L.	<i>Sedum album</i> L.	Eurasian	Chameaphytes
Crassulaceae	<i>Umbilicus rupestris</i> (Salisb.) Dandy	<i>Cotyledon umbilicus veneris</i> L.	Mediterranean-Atlantic	Geophytes
Crassulaceae	<i>Petrosedum sediforme</i> (Jacq.) Grulich	<i>Sedum sediforme</i> (Jacq.) Pau.	Mediterranean	Hemicryptophytes
Crassulaceae	<i>Sedum pubescens</i> Vahl	<i>Sedum pubescens</i> Vahl	Endemic to North of Africa	Therophytes
Crassulaceae	<i>Sedum nevadense</i> Coss.	<i>Sedum nevadense</i> Coss.	Ibero-Mauritanian	Therophytes
Crassulaceae	<i>Sedum acre</i> L.	<i>Sedum acre</i> subsp. <i>neglectum</i> (Ten) Archang	Eurasian	Therophytes
Cupressaceae	<i>Cupressus sempervirens</i> L.	<i>Cupressus sempervirens</i> L.	Mediterranean	Phanerophytes
Cupressaceae	<i>Juniperus oxycedrus</i> L.	<i>Juniperus oxycedrus</i> L. subsp. <i>rufescens</i> (Link) Deb.	Circum-Mediterranean	Phanerophytes
Cupressaceae	<i>Juniperus phoenicea</i> L.	<i>Juniperus phoenicea</i> L. (= <i>Juniperus turbinata</i> Guss. subsp. <i>turbinata</i> .)	Circum-Mediterranean	Phanerophytes
Dioscoreaceae	<i>Tamus communis</i> L.	<i>Tamus communis</i> L.	Mediterranean-Atlantic	Hemicryptophytes
Dipsaceae	<i>Knautia arvensis</i> (L.) Coult.	<i>Knautia arvensis</i> L.	Euro-As	Hemicryptophytes
Dipsaceae	<i>Lomelosia stellata</i> (L.) Raf.	<i>Scabiosa stellata</i> L. (= <i>Lomotosta stellata</i> (L.) Rafin).	Western Mediterranean	Therophytes
Ephedraceae	<i>Ephedra major</i> Host.	<i>Ephedra major</i> Host.	Macar, Méd, Asie occidentale	Phanerophytes
Euphorbiaceae	<i>Ricinus communis</i> L.	<i>Ricinus communis</i> L.	Tropical	Phanerophytes
Euphorbiaceae	<i>Euphorbia falcata</i> L.	<i>Euphorbia falcata</i> L.	Mediterranean	Therophytes
Euphorbiaceae	<i>Euphorbia helioscopia</i> L.	<i>Euphorbia helioscopia</i> L.	Eurasian	Therophytes
Fabaceae	<i>Astragalus armatus</i> Willd.	<i>Astragalus armatus</i> Willd	Endemic to North of Africa	Chameaphytes
Fabaceae	<i>Ebenus pinnata</i> L.	<i>Ebenus pinnata</i> L.	Endemic to North of Africa	Chameaphytes
Fabaceae	<i>Erinacea anthyllis</i> Link	<i>Erinacea anthyllis</i> Link	Oro-Western Mediterranean	Chameaphytes
Fabaceae	<i>Anthyllis vulneraria</i> L.	<i>Anthyllis vulneraria</i> L. subsp. <i>maura</i> (Beek.) Becker	Euro-Mediterranean	Hemicryptophytes
Fabaceae	<i>Lotus corniculatus</i> L. subsp. <i>Corniculatus</i>	<i>Lotus corniculatus</i> L. subsp. <i>corniculatus</i> Syme.	Euro-As	Hemicryptophytes
Fabaceae	<i>Bituminaria bituminosa</i> (L.) C.H. Stirt. var. <i>bituminosa</i>	<i>Psoralea bituminosa</i> L.	Mediterranean	Hemicryptophytes
Fabaceae	<i>Ononis natrix</i> L.	<i>Ononis natrix</i> L.	Mediterranean	Hemicryptophytes
Fabaceae	<i>Vicia onobrychioides</i> L.	<i>Vicia Onobrychioides</i> L.	Mediterranean	Hemicryptophytes
Fabaceae	<i>Trifolium pratense</i> L.	<i>Trifolium pratense</i> L.	Eurasian	Hemicryptophytes
Fabaceae	<i>Retama raetam</i> (Forssk.) Webb	<i>Retama raetam</i> Webb.	Sahara-sind	Phanerophytes
Fabaceae	<i>Genista ulicina</i> Spach	<i>Genista ulicina</i> Spach	Endemic to North of Africa	Phanerophytes
Fabaceae	<i>Calicotome spinosa</i> (L.) Link	<i>Calicotome spinosa</i> (L.) Lamk.	Western Mediterranean	Phanerophytes
Fabaceae	<i>Spartium junceum</i> L.	<i>Spartium junceum</i> L.	Mediterranean	Phanerophytes
Fabaceae	<i>Medicago laciniata</i> (L.) Mill.	<i>Medicago laciniata</i> (L.) All.	Mediterranean-Saha-Sind	Therophytes
Fabaceae	<i>Medicago minima</i> (L.) L.	<i>Medicago minima</i> Grufb.	Euro-Mediterranean	Therophytes

Fabaceae	<i>Melilotus indicus</i> (L.) All.	<i>Melilotus indicus</i> (L.) All.	Mediterranean-As	Therophytes
Fabaceae	<i>Hedysarum naudinianum</i> Coss. and Durieu	<i>Hedysarum naudinianum</i> L. (Coss)	Endemic to North of Africa	Therophytes
Fabaceae	<i>Astragalus hamosus</i> L.	<i>Astragalus hamosus</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Astragalus incanus</i> L.	<i>Astragalus incanus</i> L.	Western Mediterranean	Therophytes
Fabaceae	<i>Astragalus peregrinus</i> Vahl	<i>Astragalus peregrinus</i> Vahl.	East Mediterranean	Therophytes
Fabaceae	<i>Astragalus sesameus</i> L.	<i>Astragalus sesameus</i> L.	Western Mediterranean	Therophytes
Fabaceae	<i>Coronilla scorpioides</i> (L.) W.D.J. Koch	<i>Coronilla scorpioides</i> Koch.	Mediterranean	Therophytes
Fabaceae	<i>Hedysarum spinosissimum</i> L. subsp. <i>spinosissimum</i>	<i>Hedysarum spinosissimum</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Hippocrepis ciliata</i> Willd.	<i>Hippocrepis multisiliquosa</i> L. subsp. <i>ciliata</i> (Willd)	Mediterranean	Therophytes
Fabaceae	<i>Lathyrus cicera</i> L.	<i>Lathyrus Cicera</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Lotus edulis</i> L.	<i>Lotus edulis</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Medicago arabica</i> (L.) Huds.	<i>Medicago arabica</i> (L.)	Mediterranean	Therophytes
Fabaceae	<i>Medicago doliata</i> Carmign.	<i>Medicago doliata</i> Carmign	Mediterranean	Therophytes
Fabaceae	<i>Medicago doliata</i> Carmign.	<i>Medicago turbinata</i> (L.) Willd.	Mediterranean	Therophytes
Fabaceae	<i>Medicago littoralis</i> Loisel.	<i>Medicago littoralis</i> Rohde.	Mediterranean	Therophytes
Fabaceae	<i>Medicago orbicularis</i> (L.) Bartal.	<i>Medicago orbicularis</i> (L.) All	Mediterranean	Therophytes
Fabaceae	<i>Medicago polymorpha</i> L.	<i>Medicago hispida</i> Gaerth.(= <i>Medicago polymorpha</i> L.)	Mediterranean	Therophytes
Fabaceae	<i>Medicago truncatula</i> Gaertn.	<i>Medicago truncatula</i> Gaertn.	Mediterranean	Therophytes
Fabaceae	<i>Ononis alba</i> subsp. <i>monophylla</i> (Desf.) Murb	<i>Ononis alba</i> Poiret subsp. <i>monophylla</i> (Desf.) Murb.	Ital-Algeria	Therophytes
Fabaceae	<i>Scorpiurus muricatus</i> subsp. <i>sulcatus</i> (L.) Thell.	<i>Scorpiurus muricatus</i> subsp <i>sulcatus</i>	Mediterranean	Therophytes
Fabaceae	<i>Scorpiurus vermiculatus</i> L.	<i>Scorpiurus vermiculatus</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Trifolium angustifolium</i> L.	<i>Trifolium angustifolium</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Trifolium squarrosum</i> L.	<i>Trifolium squarrosum</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Trifolium stellatum</i> L.	<i>Trifolium stellatum</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Vicia peregrina</i> L.	<i>Vicia peregrina</i> L.	Mediterranean	Therophytes
Fabaceae	<i>Trifolium campestre</i> Schreb.	<i>Trifolium campestre</i> Screber (= <i>T. agrarium</i> L.)	Paleo-temperate	Therophytes
Fabaceae	<i>Genista tricuspidata</i> Desf.	<i>Genista tricuspidata</i> Desf. subsp. <i>tricuspidata</i>	Endemic to North of Africa	Phanerophytes
Fabaceae	<i>Tripodion tetraphyllum</i> (L.) Fourr.	<i>Anthyllis tetraphylla</i> L.	Mediterranean	Therophytes
Fagaceae	<i>Quercus ilex</i> L. subsp <i>rotundifolia</i> (Lam) (= <i>Quercus ilex</i> .subsp. <i>ballota</i> (Desf.)Samp..	<i>Quercus ilex</i> L. subsp <i>rotundifolia</i> (Lam) (= <i>Quercus ilex</i> subsp. <i>ballota</i> (Desf.)Samp..	Mediterranean	Phanerophytes
Geraniaceae	<i>Geranium molle</i> L.	<i>Geranium molle</i> L.	Eurasian	Hemicryptophytes
Geraniaceae	<i>Erodium crassifolium</i> (Forssk.) L'Hér.	<i>Erodium hirtum</i> Desf.	Endemic to North of Africa	Therophytes

Geraniaceae	<i>Erodium laciniatum</i> (Cav.) Willd.	<i>Erodium triangulare</i> (Forsk.) Musch	Mediterranean	Therophytes
Geraniaceae	<i>Erodium malacoides</i> (L.) L'Hér.	<i>Erodium malacoides</i> (L.) Willd. (= <i>Erodium malacoides</i> (L.) l'Herit).	Mediterranean	Therophytes
Geraniaceae	<i>Erodium moschatum</i> (L.) L'Hér.	<i>Erodium moschatum</i> (Burm.) L'Her.	Mediterranean	Therophytes
Geraniaceae	<i>Erodium botrys</i> (Cav) Bertol.	<i>Erodium botrys</i> (Cav) Bertol.	Mediterranean	Therophytes
Geraniaceae	<i>Erodium cicutarium</i> L'Her.	<i>Erodium cicutarium</i> L'Her.	Mediterranean	Therophytes
Globulariaceae	<i>Globularia alypum</i> L.	<i>Globularia alypum</i> L.	Mediterranean	Chamaephytes
Hyacinthaceae	<i>Muscari neglectum</i> Guss. ex Ten.	<i>Muscari neglectum</i> Guss	Euro-Mediterranean	Geophytes
Hyacinthaceae	<i>Ornithogalum umbellatum</i> L.	<i>Ornithogalum umbellatum</i> L.	Mediterranean-Atlantic	Geophytes
Hyacinthaceae	<i>Bellevallia mauritanica</i> Pomel	<i>Bellevallia mauritanica</i> Pomel	Endemic to North of Africa- Lib-Egy	Geophytes
Hyacinthaceae	<i>Muscari comosum</i> (L.) Mill.	<i>Muscari comosum</i> (L.) Mill	Mediterranean	Geophytes
Hyacinthaceae	<i>Prospero obtusifolium</i> (Poir.) Speta	<i>Scilla obtusifolia</i> Poirret	Corsica, Sardinia, Sicily	Geophytes
Iridaceae	<i>Iris unguicularis</i> Poir.	<i>Iris unguicularis</i> Poir.	Endemic to North of Africa	Geophytes
Iridaceae	<i>Gladiolus dubius</i> Guss.	<i>Gladiolus byzantinus</i> Mill. = <i>Gladiolus communis</i> subsp. <i>byzantinus</i> (Miller) Douin	Mediterranean	Geophytes
Iridaceae	<i>Gladiolus italicus</i> Mill.	<i>Gladiolus segetum</i> Ker Gawl.	Mediterranean	Geophytes
Iridaceae	<i>Xiphion planifolium</i> Mill.	<i>Iris planifolia</i> (Mill.) Dur. et Sch.	Western Mediterranean	Geophytes
Iridaceae	<i>Moraea sisyrinchium</i> (L.) er Gawl.	<i>Iris sisyrinchium</i> L = <i>Gynandiris sisyrinchium</i> (L.) Parl	Paleo-sub-tropical	Geophytes
Juncaceae	<i>Juncus maritimus</i> Lam	<i>Juncus maritimus</i> Lamk	Sub-Cosmopolitan	Chamaephytes
Juncaceae	<i>Juncus acutus</i> L.	<i>Juncus acutus</i> L.	Sub-Cosmopolitan	Hemicryptophytes
Lamiaceae	<i>Ajuga chamaepitys</i> Schreber.	<i>Ajuga chamaepitys</i> Schreber.	Euras-Mediterranean	Chamaephytes
Lamiaceae	<i>Teucrium polium</i> L.	<i>Teucrium polium</i> L.	Euro-Mediterranean	Chamaephytes
Lamiaceae	<i>Thymus munbyanus</i> subsp. <i>ciliatus</i> (Desf.) Greuter and Burdet	<i>Thymus ciliatus</i> subsp. <i>eu-ciliatus</i> Maire.	Endemic to North of Africa	Chamaephytes
Lamiaceae	<i>Thymus dreatensis</i> Batt.	<i>Thymus dreatensis</i> Batt.	Endemic to Algeria	Chamaephytes
Lamiaceae	<i>Thymus algeriensis</i> Boiss. and Reut.	<i>Thymus algeriensis</i> Boiss. et Reut.	Endemic to North of Africa	Chamaephytes
Lamiaceae	<i>Ajuga iva</i> (L.) Schreb.	<i>Ajuga iva</i> (L.) Schreber	Mediterranean	Chamaephytes
Lamiaceae	<i>Prasium majus</i> L	<i>Prasium majus</i> L	Mediterranean	Chamaephytes
Lamiaceae	<i>Thymus willdenowii</i> Boiss.	<i>Thymus hirtus</i> Willd.	Ibero-Mauritanian	Chamaephytes
Lamiaceae	<i>Teucrium pseudo-chamaepitys</i> L.	<i>Teucrium pseudo-chamaepitys</i> L.	Western Mediterranean	Chamaephytes
Lamiaceae	<i>Teucrium flavum</i> L.	<i>Teucrium flavum</i> L.	Mediterranean	Chamaephytes
Lamiaceae	<i>Salvia officinalis</i> L.	<i>Salvia officinalis</i> L.	European	Chamaephytes
Lamiaceae	<i>Marrubium vulgare</i> L.	<i>Marrubium vulgare</i> L	Cosmopolitan	Hemicryptophytes
Lamiaceae	<i>Mentha suaveolens</i> Ehrh.	<i>Mentha rotundifolia</i> L.	Mediterranean-Atlantic	Hemicryptophytes
Lamiaceae	<i>Origanum vulgare</i> subsp. <i>glandulosum</i> (Desf.) Ietsw.	<i>Origanum glandulosum</i> Desf.	Algerian -Tunisian Endemic	Hemicryptophytes
Lamiaceae	<i>Stachys guyoniana</i> de Noé	<i>Stachys guyoniana</i> de Noé	Endemic to Algeria	Hemicryptophytes

Lamiaceae	<i>Thymus pallescens</i> de Noé	<i>Thymus fontanesii</i> Boiss. et Reut.	Endemic to North of Africa	Hemicryptophytes
Lamiaceae	<i>Ballota nigra</i> L.	<i>Ballota nigra</i> L.	Mediterranean	Hemicryptophytes
Lamiaceae	<i>Lavandula multifida</i> L.	<i>Lavandula multifida</i> L.	Mediterranean	Hemicryptophytes
Lamiaceae	<i>Marrubium alysson</i> L.	<i>Marrubium alysson</i> L.	Ibero-Moroccan	Hemicryptophytes
Lamiaceae	<i>Marrubium supinum</i> L.	<i>Marrubium supinum</i> L.	Ibero-Mauritanian	Hemicryptophytes
Lamiaceae	<i>Mentha spicata</i> L.	<i>Mentha spicata</i> L.	East Mediterranean	Hemicryptophytes
Lamiaceae	<i>Origanum majorana</i> L.	<i>Origanum majorana</i> L.	East Mediterranean	Hemicryptophytes
Lamiaceae	<i>Phlomis herba-ventit</i> L.	<i>Phlomis herba-venti</i> L.	Mediterranean	Hemicryptophytes
Lamiaceae	<i>Salvia argentea</i> L.	<i>Salvia argentea</i> L.	Mediterranean	Hemicryptophytes
Lamiaceae	<i>Satureja alpina</i> Scheele ssp. <i>granatensis</i> (Boiss. et Reut.) Maire	<i>Satureja granatensis</i> (Br et R.) R.Fern.	Ibero-Mauritanian	Hemicryptophytes
Lamiaceae	<i>Mentha pulegium</i> L.	<i>Mentha pulegium</i> L.	Eurasian	Hemicryptophytes
Lamiaceae	<i>Rosmarinus eriocalyx</i> Jord. and Fourr.	<i>Rosmarinus tournefortii</i> de Noé	Endemic to North of Africa	Phanerophytes
Lamiaceae	<i>Lamium amplexicaule</i> L.	<i>Lamium amplexicaule</i> L.	Cosmopolitan	Therophytes
Lamiaceae	<i>Salvia verbenaca</i> (L.) Briq.	<i>Salvia verbenaca</i> (L.) Briq.	Mediterranean-Atlantic	Therophytes
Lamiaceae	<i>Acinos rotundifolius</i> Pers.	<i>Satureja rotundifolia</i> (Pers.) Briq.	Mediterranean	Therophytes
Lamiaceae	<i>Salvia barrelieri</i> Etl.	<i>Salvia barrelieri</i> Etl.	Ibero-Mauritanian	Therophytes
Lamiaceae	<i>Sideritis montana</i> L.	<i>Sideritis montana</i> L.	Mediterranean	Therophytes
Lauraceae	<i>Laurus nobilis</i> L.	<i>Laurus nobilis</i> L.	Mediterranean	Phanerophytes
Liliaceae	<i>Tulipa sylvestris</i> L.subsp. <i>australis</i> (Link.) Pamp.	<i>Tulipa sylvestris</i> L.subsp. <i>australis</i> (Link.) Pamp.	Euro-Mediterranean	Geophytes
Liliaceae	<i>Gagea granatellii</i> (Parl.) Parl.	<i>Gagea granatellii</i> (Parl.) Parl.	Endemic to North of Africa	Geophytes
Liliaceae	<i>Gagea foliosa</i> (J. Presl and C. Presl) Schult. and Schult. f.	<i>Gagea foliosa</i> (Presl.) Sch.	Western Mediterranean	Geophytes
Linaceae	<i>Linum suffruticosum</i> L.	<i>Linum tenuifolium</i> L.	East Mediterranean	h Hemicryptophytes
Linaceae	<i>Linum strictum</i> L.	<i>Linum strictum</i> L.	Mediterranean	Therophytes
Malvaceae	<i>Malva parviflora</i> L.	<i>Malva parviflora</i> L.	Mediterranean	Therophytes
Malvaceae	<i>Malva sylvestris</i> L.	<i>Malva sylvestris</i> L.	Eurasian	Therophytes
Moraceae	<i>Ficus carica</i> L.	<i>Ficus carica</i> L.	Mediterranean	Phanerophytes
Oleaceae	<i>Fraxinus dimorpha</i> Coss. and Durieu	<i>Fraxinus xanthoxyloides</i> Wall.	NW. Africa	Phanerophytes
Oleaceae	<i>Chrysojasminum fruticans</i> (L.) Banfi	<i>Jasminum fruticans</i> L.	Mediterranean	Phanerophytes
Oleaceae	<i>Olea europaea</i> L. subsp. <i>Europaea</i>	<i>Olea europea</i> var <i>Oleaster</i> (L) Dc.	Mediterranean	Phanerophytes
Oleaceae	<i>Phillyrea latifolia</i> L.	<i>Phillyrea angustifolia</i> L.subsp. <i>media</i> (L.) Rouy.	Mediterranean	Phanerophytes
Oleaceae	<i>Fraxinus angustifolia</i> Vahl subsp. <i>Angustifolia</i>	<i>Fraxinus angustifolia</i> Vahl.	European	Phanerophytes
Orchidaceae	<i>Orchis anthropophora</i> (L.) All.	<i>Aceras anthropophorum</i> L. Ait	Mediterranean-Atlantic	Geophytes
Orchidaceae	<i>Ophrys numida</i> Devillers-Tersch. and Devillers	<i>Ophrys subfusca</i> Devillers-Tersch. and Devillers	End Alg-Tun	Geophytes
Orchidaceae	<i>Ophrys fusca</i> Link.	<i>Ophrys fusca</i> Link.	Mediterranean stricto sensu	Geophytes
Orchidaceae	<i>Ophrys lutea</i> Cav	<i>Ophrys lutea</i> Cav	Mediterranean stricto sensu	Geophytes

Orchidaceae	<i>Ophrys marmorata</i> G. Foelsche and W.Foelsche	<i>Ophrys marmorata</i> G. Foelsche and W.Foelsche	Southern Corsica	Geophytes
Orchidaceae	<i>Ophrys omegaifera</i> subsp. <i>hayekii</i> (H. Fleischm. and Soo) Kreutz	<i>Ophrys omegaifera</i> subsp. <i>hayekii</i> (H. Fleischm. and Soo) Kreutz	Southern Mediterranean, Alg- Tunisia.	Geophytes
Orchidaceae	<i>Ophrys speculum</i> Link	<i>Ophrys speculum</i> Link	Circum-Mediterranean	Geophytes
Orchidaceae	<i>Ophrys tenthredinifera</i> Willd.	<i>Ophrys tenthredinifera</i> Willd.	Circum-Mediterranean	Geophytes
Orchidaceae	<i>Androrchis olbiensis</i> (Reut. ex Gren.) D. Tyteca and E. Klein	<i>Orchis mascula</i> L. ssp. <i>olbiensis</i> (Reut.) Asch. et Gr.	Eurasian	Geophytes
Orobanchaceae	<i>Cistanche phelypaea</i> (L.) Cout.	<i>Cistanche phelypaea</i> (L.) P. Cout.	Sah-Mediterranean	Chameaphytes
Papaveraceae	<i>Hypecoum pendulum</i> L.	<i>Hypecoum pendulum</i> L.	Mediterranean-Irano-Touranian.	Therophytes
Papaveraceae	<i>Roemeria hybrida</i> (L.) DC.	<i>Roemeria hybrida</i> (L.) DC.	Mediterranean-Irano-Touranian.	Therophytes
Papaveraceae	<i>Glaucium corniculatum</i> (L.) H. Rudolph	<i>Glaucium corniculatum</i> (L.) H. Rudolph	Mediterranean	Therophytes
Papaveraceae	<i>Fumaria parviflora</i> Lam.	<i>Fumaria parviflora</i> Lam.	Mediterranean	Therophytes
Papaveraceae	<i>Papaver hybridum</i> L.	<i>Papaver hybridum</i> L.	Mediterranean	Therophytes
Papaveraceae	<i>Papaver pinnatifidum</i> Moris	<i>Papaver pinnatifidum</i> Moris	Mediterranean	Therophytes
Papaveraceae	<i>Rupicapnos africana</i> (Lam.) Pomel	<i>Rupicapnos africana</i> (Lam.) Pomel	Algeria and Tunisia	Therophytes
Papaveraceae	<i>Fumaria officinalis</i> L.	<i>Fumaria officinalis</i> L.	Paleo-temperate	Therophytes
Papaveraceae	<i>Papaver rhoeas</i> L.	<i>Papaver rhoeas</i> L.	Paleo-temperate	Therophytes
Pinaceae	<i>Pinus halepensis</i> Mill.	<i>Pinus halepensis</i> Mill.	Mediterranean	Phanerophytes
Plantaginaceae	<i>Anarrhinum fruticosum</i> Desf.	<i>Anarrhinum fruticosum</i> Desf.	Algerian-Maroccan Endemic	Hemicryptophytes
Plantaginaceae	<i>Plantago albicans</i> L.	<i>Plantago albicans</i> L.	Mediterranean	Hemicryptophytes
Plantaginaceae	<i>Plantago serraria</i> L.	<i>Plantago serraria</i> L.	Western Mediterranean	Hemicryptophytes
Plantaginaceae	<i>Plantago major</i> L. subsp. <i>eu-major</i>	<i>Plantago major</i> L. subsp. <i>eu-major</i>	Eurasian	Hemicryptophytes
Plantaginaceae	<i>Veronica anagallis-aquatica</i> L.	<i>Veronica anagallis-aquatica</i> L. subsp. <i>aquatica</i> (Bernh.) Maire	Circum-Boreal	Hemicryptophytes
Plantaginaceae	<i>Veronica persica</i> Poir.	<i>Veronica persica</i> All.	W-As	Therophytes
Plantaginaceae	<i>Linaria reflexa</i> (L.) Chaz.	<i>Linaria reflexa</i> Desf	Circum-Mediterranean	Therophytes
Plantaginaceae	<i>Linaria simplex</i> Dc	<i>Linaria simplex</i> Dc	Mediterranean	Therophytes
Plantaginaceae	<i>Linaria triphylla</i> L.	<i>Linaria triphylla</i> L.	Mediterranean	Therophytes
Plantaginaceae	<i>Plantago afra</i> L.	<i>Plantago afra</i> L.	Sub-Mediterranean	Therophytes
Plantaginaceae	<i>Plantago lagopus</i> L.	<i>Plantago lagopus</i> L.	Mediterranean	Therophytes
Plantaginaceae	<i>Plantago ovata</i> Forsk.	<i>Plantago ovata</i> Forsk.	Mediterranean	Therophytes
Plantaginaceae	<i>Plantago Psyllium</i> L.	<i>Plantago Psyllium</i> L.	Sub-Mediterranean	Therophytes
Plantaginaceae	<i>Plantago coronopus</i> subsp. <i>eu-coronopus</i> Pilger	<i>Plantago coronopus</i> subsp. <i>eu-coronopus</i> Pilger	Eurasian	Therophytes
Poaceae	<i>Piptatherum miliaceum</i> (L.) Coss.	<i>Oryzopsis miliacea</i> (= <i>Piptatherum miliaceum</i> L.) (L.) Asch et Schiv.	Mediterranean-Irano-Touranian.	Chameaphytes
Poaceae	<i>Ampelodesmos mauritanicus</i> (Poir.) T. Durand and Schinz	<i>Ampelodesmos mauritanicus</i> (Poir.) T. Durand and Schinz	Oro- Mediterranean	Geophytes
Poaceae	<i>Lygeum spartium</i> L.	<i>Lygeum spartium</i> L.	Western Mediterranean	Geophytes

Poaceae	<i>Macrochloa tenacissima</i> (L.) Kunth	<i>Stipa tenacissima</i> L.	Ibero-Mauritanian	Geophytes
Poaceae	<i>Melica cupanii</i> Guss. var. <i>typica</i> Boiss.	<i>Melica cupanii</i> Guss. var. <i>typica</i> Boiss.	Mediterranean-Irano-Touranian.	Hemicryptophytes
Poaceae	<i>Festuca atlantica</i> Duv. Jouve	<i>Festuca atlantica</i> Duv. Jouve	Endemic to North of Africa	Hemicryptophytes
Poaceae	<i>Phalaris truncata</i> Guss. ex Bertol.	<i>Phalaris truncata</i> Guss. ex Bertol.	Mediterranean stricto sensu	Hemicryptophytes
Poaceae	<i>Stipa parviflora</i> Desf.	<i>Stipa parviflora</i> Desf.	Mediterranean stricto sensu	Hemicryptophytes
Poaceae	<i>Dactylis glomerata</i> L.	<i>Dactylis glomerata</i> L.	Paleo-temperate	Hemicryptophytes
Poaceae	<i>Helictochloa pratensis</i> (L.) Romero Zarco	<i>Avena pratensis</i> L.	Circum-Boreal	Hemicryptophytes
Poaceae	<i>Lolium perrene</i> L.	<i>Lolium perrene</i> L.	Circum-Boreal	Hemicryptophytes
Poaceae	<i>Poa bulbosa</i> L.	<i>Poa bulbosa</i> L.	Paleo-temperate	Hemicryptophytes
Poaceae	<i>Anisantha madritensis</i> (L.) Nevski	<i>Bromus madritensis</i> L.	Euro-Mediterranean	Therophytes
Poaceae	<i>Avena alba</i> auct.	<i>Avena alba</i> L.	Mediterranean-Irano-Touranian.	Therophytes
Poaceae	<i>Avena barbata</i> Pott ex Link	<i>Avena barbata</i> Pott ex Link	Mediterranean-Irano-Touranian.	Therophytes
Poaceae	<i>Avena sativa</i> L.	<i>Avena sativa</i> L.	Cosmopolitan	Therophytes
Poaceae	<i>Avena sterilis</i> L.	<i>Avena sterilis</i> L.	Mediterranean-Irano-Touranian.	Therophytes
Poaceae	<i>Cynosurus elegans</i> Desf.	<i>Cynosurus elegans</i> Desf.	Macar-Mediterranean	Therophytes
Poaceae	<i>Dasypyrum hordeaceum</i> (Coss. and Durieu) P. Candargy	<i>Dasypyrum hordeaceum</i> Coss et Dur.	North of Africa, Greece	Therophytes
Poaceae	<i>Echinaria capitata</i> (L.) Desf.	<i>Echinaria capitata</i> (L.) Desf	Mediterranean-Atlantic	Therophytes
Poaceae	<i>Hordeum vulgare</i> L.	<i>Hordeum vulgare</i> L.	Cultivated	Therophytes
Poaceae	<i>Lagurus ovatus</i> L.	<i>Lagurus ovatus</i> L.	Macar-Mediterranean	Therophytes
Poaceae	<i>Phalaris canariensis</i> L.	<i>Phalaris canariensis</i> L.	Macar-Mediterranean	Therophytes
Poaceae	<i>Polypogon maritimum</i> Willd.	<i>Polypogon maritimum</i> Willd.	Mediterranean-Atlantic As Occ- Siberian	Therophytes
Poaceae	<i>Rostraria cristata</i> (L.) Tzvelev	<i>Koeleria phleoides</i> (Vill) Pers. (=Rostraria cristata (L) Tzevelev).	Sub-Cosmopolitan	Therophytes
Poaceae	<i>Triticum durum</i> Desf.	<i>Triticum durum</i> Desf.	Cultivated	Therophytes
Poaceae	<i>Aegilops ventricosa</i> Tausch	<i>Aegilops ventricosa</i> Tausch (= <i>A. cylindrical</i> Trab.)	Western Mediterranean	Therophytes
Poaceae	<i>Brachypodium retusum</i> (Pers.) P. Beauv.	<i>Brachypodium ramosum</i> (L.) R. et S.	Circum-Mediterranean	Therophytes
Poaceae	<i>Bromus ligusticus</i> All.	<i>Vulpia ligustica</i> (All.) Link	Western Mediterranean-greece	Therophytes
Poaceae	<i>Helictochloa bromoides</i> (Gouan) Romero Zarco	<i>Avena bromoide</i> Gouan	Mediterranean	Therophytes
Poaceae	<i>Taeniatherum caput-medusae</i> (L.) Nevski	<i>Elymus caput-medusae</i> L.	Circum- Mediterranean	Therophytes
Poaceae	<i>Rostraria litorea</i> (All.) Holub	<i>Koeleria pubescens</i> L (=Lophochloa pubescens)	Mediterranean stricto sensu	Therophytes
Poaceae	<i>Anisantha rubens</i> (L.) Nevski	<i>Bromus rubens</i> L.	Paleo-sub-tropical	Therophytes
Poaceae	<i>Anisantha tectorum</i> (L.) Nevski	<i>Bromus tectorum</i> L.	Paleo-temperate	Therophytes
Poaceae	<i>Anthoxanthum odoratum</i> L.	<i>Anthoxanthum odoratum</i> L.	Circum-Boreal	Therophytes
Poaceae	<i>Brachypodium distachyom</i> (L.) P. Beauv.	<i>Brachypodium distachyom</i> (L) P.B.	Paleo-sub-tropical	Therophytes

Poaceae	<i>Festuca sylvatica</i> Huds.	<i>Brachypodium sylvaticum</i> (Huds.) P. B.	Paleo-temperate	Therophytes
Poaceae	<i>Hordeum murinum</i> L.	<i>Hordeum murinum</i> L.	Circum-Boreal	Therophytes
Poaceae	<i>Phalaris minor</i> Retz.	<i>Phalaris minor</i> Retz	Paleo-sub-tropical	Therophytes
Poaceae	<i>Aegilopodes triuncialis</i> (L.) Á. Löve	<i>Aegilops triuncialis</i> subsp. <i>eu-ovata</i> Eig	Mediterranean-Irano-Touranian.	Therophytes
Polygalaceae	<i>Polygala rupestris</i> Pourr.	<i>Polygala rupestris</i> Pourr.	Western Mediterranean	Hemicryptophytes
Polygonaceae	<i>Rumex vesicarius</i> L.	<i>Rumex vesicarius</i> L.	Sah-Sind-Mediterranean	Therophytes
Polygonaceae	<i>Rumex bucephalophorus</i> L.	<i>Rumex bucephalophorus</i> L.	Mediterranean	Therophytes
Primulaceae	<i>Lysimachia monelli</i> (L.) U. Manns and Anderb.	<i>Anagallis monelli</i> L. subsp. <i>linifolia</i> (L.) Maire	Western Mediterranean	Hemicryptophytes
Primulaceae	<i>Lysimachia arvensis</i> (L.) U. Manns and Anderb.	<i>Anagallis arvensis</i> L. subsp. <i>parviflora</i> (Hoff. et Link.) Batt.	Sub-Cosmopolitan	Therophytes
Primulaceae	<i>Lysimachia linum-stellatum</i> L.	<i>Asterolinum linum-stellatum</i> (L.) Duby	Mediterranean	Therophytes
Primulaceae	<i>Androsace maxima</i> L.	<i>Androsace maxima</i> L.	Eurasian	Therophytes
Pteridaceae	<i>Adiantum capillus-veneris</i> L.	<i>Adiantum capillus-veneris</i> L.	PseudoMediterranean-Atlantic	Geophytes
Pteridaceae	<i>Allosorus acrosticus</i> (Balb.) Christenh. / <i>Oeosporangium acrosticum</i> (Balb.) L.Sáez and Aymerich	<i>Cheilanthes acrostica</i> (Balb.) Tod.	Paleo-sub-tropical	Hemicryptophytes
Ranunculaceae	<i>Ranunculus macrophyllus</i> Desf.	<i>Ranunculus macrophyllus</i> Desf	Western Mediterranean	Hemicryptophytes
Ranunculaceae	<i>Ranunculus spicatus</i> Desf.	<i>Ranunculus spicatus</i> Desf.	Ibero-Mauritanian-Sicily	Hemicryptophytes
Ranunculaceae	<i>Ceratocephala falcata</i> subsp. <i>incurva</i> (Steven) Chrték and Chrtková	<i>Ceratocephalus falcatus</i> (L.) subsp. <i>incurvus</i> (Stev.)Maire et Weiller	Mediterranean-Irano-Touranian.	Therophytes
Ranunculaceae	<i>Adonis microcarpa</i> var. <i>dentata</i> (Delile) Coss. and Kralík	<i>Adonis dentata</i> Del.	Mediterranean	Therophytes
Ranunculaceae	<i>Nigella arvensis</i> L.	<i>Nigella arvensis</i> L.	Mediterranean	Therophytes
Ranunculaceae	<i>Adonis aestivalis</i> L.	<i>Adonis aestivalis</i> L	Eurasian	Therophytes
Ranunculaceae	<i>Adonis annua</i> L.	<i>Adonis annua</i> L.	Eurasian	Therophytes
Ranunculaceae	<i>Ranunculus arvensis</i> L.	<i>Ranunculus arvensis</i> L.	Paleo-temperate	Therophytes
Resedaceae	<i>Reseda luteola</i> L.	<i>Reseda luteola</i> L.	Eurasian	Hemicryptophytes
Resedaceae	<i>Reseda alba</i> L.	<i>Reseda alba</i> L. subsp. <i>eu-alba</i> Maire	Eurasian	Therophytes
Rhamnaceae	<i>Rhamnus lycioides</i> subsp. <i>oleoides</i> (L.) Jahand. and Maire	<i>Rhamnus lycioides</i> subsp. <i>oleoides</i> (L.) Jahand. and Maire	Western Mediterranean	Phanerophytes
Rhamnaceae	<i>Ziziphus lotus</i> (L.) Lam.	<i>Ziziphus lotus</i> (L.) Desf.	Mediterranean	Phanerophytes
Rosaceae	<i>Sanguisorba minor</i> Scop. subsp. <i>verrucosa</i>	<i>Sanguisorba minor</i> Scop. subsp. <i>Verrucosa</i>	Eurasian	Hemicryptophytes
Rosaceae	<i>Crataegus monogyna</i> Jacq.	<i>Crataegus oxyacantha</i> L. subsp. <i>monogyna</i> (Jacq.) Rouy et Camus	Euro-Mediterranean	Phanerophytes
Rosaceae	<i>Prunus dulcis</i> (Mill.) D.A. Webb	<i>Prunus amygdalus</i> Stoker	Mediterranean-As.	Phanerophytes
Rosaceae	<i>Rubus ulmifolius</i> Schott	<i>Rubus ulmifolius</i> Schott	Euro-Mediterranean	Phanerophytes
Rosaceae	<i>Crataegus azarolus</i> L.	<i>Crataegus azarolus</i> L.	East Mediterranean	Phanerophytes
Rosaceae	<i>Rosa canina</i> L. subsp. <i>pouzinii</i> (Tratt.) Batt.	<i>Rosa pouzini</i> Tratt.	Eurasian	Phanerophytes

Rosaceae	<i>Rosa sempervirens</i> L.	<i>Rosa sempervirens</i> L.	Eurasian	Phanerophytes
Rubiaceae	<i>Galium tunetatum</i> Poiret	<i>Galium tunetatum</i> Poiret	Endemic to North of Africa	Hemicryptophytes
Rubiaceae	<i>Asperula hirsuta</i> Desf.	<i>Asperula hirsuta</i> Desf.	Oro-Mediterranean	Hemicryptophytes
Rubiaceae	<i>Galium lucidum</i> All.	<i>Galium mollugo</i> L. subsp. <i>corrudaefolium</i> (Vill.) Briquet	Eurasian	Hemicryptophytes
Rubiaceae	<i>Galium pusillum</i> L. subsp. <i>typicum</i> Fiori	<i>Galium pusillum</i> L. subsp. <i>typicum</i> Fiori	Eurasian	Hemicryptophytes
Rubiaceae	<i>Rubia peregrina</i> L.	<i>Rubia peregrina</i> L.	Mediterranean-Atlantic	Phanerophytes
Rubiaceae	<i>Crucianella angustifolia</i> L.	<i>Crucianella angustifolia</i> L.	Euro-Mediterranean	Therophytes
Rubiaceae	<i>Galium setaceum</i> Lamk.	<i>Galium setaceum</i> Lamk.	Euras-Mediterranean	Therophytes
Rubiaceae	<i>Galium verrucosum</i> Huds	<i>Galium valantia</i> Webber.	Mediterranean	Therophytes
Rubiaceae	<i>Galium aparine</i> L.	<i>Galium aparine</i> L.	Paleo-temperate	Therophytes
RUSCACEAE	<i>Ruscus aculeatus</i> L.	<i>Ruscus aculeatus</i> L.	Mediterranean-Atlantic	Chameaphytes
Rutaceae	<i>Ruta chalepensis</i> L.	<i>Ruta chalepensis</i> L.	Mediterranean	Hemicryptophytes
Rutaceae	<i>Ruta montana</i> (L.) L.	<i>Ruta montana</i> (Clus.) L.	Mediterranean	Therophytes
Salicaceae	<i>Salix pedicellata</i> Desf.	<i>Salix pedicellata</i> Desf.	Mediterranean	Phanerophytes
Salicaceae	<i>Populus alba</i> L.	<i>Populus alba</i> L.	Paleo-temperate	Phanerophytes
Salicaceae	<i>Populus nigra</i> L.	<i>Populus nigra</i> L.	Paleo-temperate	Phanerophytes
Scrophulariaceae	<i>Scrophularia canina</i> L.	<i>Scrophularia canina</i> L.	Mediterranean	Hemicryptophytes
Solanaceae	<i>Datura inoxia</i> Mill.	<i>Datura Meteloides</i> DC	Cosmopolitan	Hemicryptophytes
Solanaceae	<i>Hyoscyamus albus</i> L.	<i>Hyoscyamus albus</i> L.	Mediterranean	Hemicryptophytes
Solanaceae	<i>Lycium europaeum</i> L.	<i>Lycium europaeum</i> L.	Mediterranean	Phanerophytes
Solanaceae	<i>Withania frutescens</i> (L.) Pauquy	<i>Withania frutescens</i> (L.) Pauquy	Ibero-Maritanian	Phanerophytes
Solanaceae	<i>Solanum nigrum</i> subsp. <i>eu-nigrum</i> Rouy	<i>Solanum nigrum</i> subsp. <i>eu-nigrum</i> Rouy	Cosmopolitan	Therophytes
Tamaricaceae	<i>Tamarix africana</i> (L) Poiet	<i>Tamarix africana</i> (L) Poiet	Western Mediterranean	Phanerophytes
Thymelaeaceae	<i>Thymelaea hirsuta</i> (L.) Endl.	<i>Thymelaea hirsuta</i> Endl	Mediterranean	Chameaphytes
Thymelaeaceae	<i>Daphne gnidium</i> L.	<i>Daphne gnidium</i> L.	Mediterranean	Phanerophytes
Ulmaceae	<i>Ulmus campestris</i> L.	<i>Ulmus campestris</i> L.	Mediterranean	Phanerophytes
Urticaceae	<i>Urtica membranacea</i> Poir.	<i>Urtica membranacea</i> Poir.	Mediterranean	Therophytes
Urticaceae	<i>Urtica urens</i> L.	<i>Urtica urens</i> L.	Mediterranean	Therophytes
Valerianaceae	<i>Centranthus calcitrapae</i> (L.) Dufr.	<i>Kentranthus calcitrapa</i> (R.) Dufr (incl. <i>C. clousonis</i> Pomel).	Mediterranean	Hemicryptophytes
Valerianaceae	<i>Valeriana tuberosa</i> L.	<i>Valeriana tuberosa</i> L.	Mediterranean	Hemicryptophytes
Valerianaceae	<i>Valerianella eriocarpa</i> Desv.	<i>Valerianella eriocarpa</i> Desv. subsp. <i>truncata</i>	Mediterranean-Atlantic	Therophytes
Valerianaceae	<i>Valerianella coronata</i> (L.) DC.	<i>Vallerianella coronata</i> (L.) Dc. subsp. <i>eu-coronata</i> P. Four.	Mediterranean	Therophytes
Valerianaceae	<i>Valerianella coronata</i> (L.) DC.	<i>Valerianella olitoria</i> L.	Mediterranean	Therophytes
Violaceae	<i>Viola odorata</i> L.	<i>Viola odorata</i> L.	Mediterranean-Atlantic	Hemicryptophytes
Violaceae	<i>Viola gracilis</i> var. <i>munbyana</i> (Boiss. and Reut.) Batt.	<i>Viola munbyana</i> Boiss. et Reut.	Endemic to North of Africa	Therophytes
Vitaceae	<i>Vitis vinifera</i> subsp. <i>sylvestris</i> (C.C.Gmel.)	<i>Vitis vinifera</i> subsp. <i>sylvestris</i> (C.C.Gmel.) Hegi.	Mediterranean	Phanerophytes

Hegi.				
Xanthorrhoeaceae (Liliaceae)	<i>Asphodelus gracilis</i> Braun-Blanq. and Maire	<i>Asphodelus aestivus</i> Brot. (= <i>A. microcarpus</i> Salzm. et Viv.)	Canary Islands-Mediterranean	Geophytes
Xanthorrhoeaceae (Liliaceae)	<i>Asphodeline lutea</i> (L.) Rchb.	<i>Asphodeline lutea</i> (L.) Rchb.	East Mediterranean	Geophytes
Zygophyllaceae	<i>Peganum harmala</i> L.	<i>Peganum harmala</i> L.	Mediterranean-Irano-Touranian.	Hemicryptophytes