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DETERMINATION OF SOME GROUND COVER PLANTS GROWING NATURALLY IN LAKES REGION OF TÜRKİYE

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Abstract: The study area (Lakes Region) located in Western Anatolia part of Türkiye has a very rich floristic composition. However, these natural plants are used seldom for landscape or economic purposes. In this context, ground cover plants are often inconspicuous elements of a landscape plantation design because of their functional and aesthetics avantages. Although natural ground cover plants are very important, knowledges on the subject are unsufficient. In this study, potantial natural ground cover plants were determined in survey studies from the Lakes Region for the first time. The study was carried out among 2000 and 2004 years from different habitats in mountains of the region. By our observations in the study, concept of "ground cover plant" was defined newly. Collected and identified plants according to general flora books by the authors are hold in Herbarium GUL of Süleyman Demirel University. According to our field observations, botanical and ecological characteristics of the plants were determined for ground covering. A list of these plants was listed alphabetically.
According to the results, totally **175** taxa belonging to 79 genera and 28 families were determined. **44** of them are belonging to Fabaceae family. The family has more taxa than other families on the subject. Their distributions and ration to life forms of the taxa are as follows: **Chamaephytes 81 (46.2 %), Hemicryptophytes 71 (40.5 %), Terophytes 12 (6.8 %), Geophytes 7 (4.0 %) and Phanerophytes 4 (2.2 %)**. **80 taxa of them are endemic to Türkiye** and **endemism ratio is 46 %.** On the other hand, distributions to phytogeographical regions of ground cover plants growing in the study area **Mediterranean elements 48 (27.0 %), Irano-Turanian elements 44 (25.0 %), Euro-Siberian elements 13 (7.0 %), many regionous 10 (6.0 %) and unknown 60 (34.0.%).** Some ground cover plants were proposed for different habitats and landscape areas.

Key Words: Ground cover plants, Plantation design, Plant ecology, Phytogeography, Lakes Region, Isparta.

GÖLLER YÖRESİ'NDE DOĞAL OLARAK YETİŞEN BAZI YER ÖRTÜCÜ BİTKİLERİN BELİRLENMESİ

Özet: Çalışma alanı(Göller Yöresi) Türkiye'nin Batı Anadolu kesiminde yer alır. Yöre, floristik açıdan çok zengindir. Bununla birlikte bu doğal bitkiler ekonomik amaçlı veya yer örtücü amaçlı olarak nadiren kullanılmaktadır. Bu manada, yer örtücü bitkiler yörede ekseriyetle peyzaj düzenlemelerde fazla dikkat çekmez. Ancak bu bitkilerin fonksiyonel ve estetik avantajları çok fazladır. Doğal yer örtücü bitkiler çok önemli olmasına rağmen bu konudaki bilgiler de oldukça yetersizdir. Bu çalışmada, floristik çalışmalarla yörenin potansiyel doğal yer örtücü bitkileri ilk kez belirlendi. Çalışma, 2000-2004 yıllarında yapıldı ve bitkilerin listesi yörenin dağlarındaki farklı habitatlarda yapılan çalışmalarla belirlendi. **Yer örtücü bitki** anlamında çalışmaya dair gözlemlerimiz ilerleyen yıllarda yeniden gözden geçirildi ve bazı tanımlamalar yapıldı. Tarafımızdan toplanan ve genel floristik eserler yardımıyla tarafımızdan teşhisleri yapılan iletim demetli yer örtücü bitki örnekleri Süleyman Demirel Üniversitesi'nin(Isparta) **GUL Herbaryumu**'nda muhafaza edilmektedir. Yer örtücü bitkiler için Göller Yöresi'nin dağlarında yapılan arazi gözlemleri, bitkilerin botanik ve ekolojik özellikleri çalışmada belirlendi. Bu bitkiler alfabetik sıraya dizilerek listelendi.
Çalışmanın sonuçlarına göre; toplam olarak 79 cins ve 28 familyaya ait **175** takson tayin edildi. Bunlardan **44** takson Fabaceae familyasına aittir. Bu familya yer örtücü bitkiler açısından diğer familyalardan daha çok takson ihtiva eder. Yöreden tespit edilen yer örtücü bitki taksonlarının hayat

formları ve hayat formlarına dağılım oranları aşağıdaki gibidir: **Kamafit 81 (% 46.2), Hemikriptofit 71 (% 40.5), Terofit 12 (% 6.8), Geofit 7 (% 4.0) ve Fanerofit 4 (% 2.2). Bu taksonlardan 80'i Türkiye endemiğidir ve endemizm oranı % 46'dır.** Diğer taraftan yörenin yer örtücü bitkilerinin bitki coğrafyası bölgelerine dağılımı ve oranları şöyledir: **Mediterranean(Akdeniz) elementi 48 (% 27.0), Irano-Turanian(İran-Turan) elementi 44 (% 25.0), Euro-Siberian(Avrupa-Sibirya) elementi 13 (% 7.0), çok bölgeli 10 (% 6.0) ve coğfafi bölgesi bilinmeyen 60 (% 34.0).** Bazı yer örtücü bitkiler peyzaj düzenlemeleri için ilk kez belirlendi ve farklı ortamlarda uygulanması önerildi.

***Anahtar Kelimeler*:** Yer örtücü bitkiler, Peyzaj düzenleme, Bitki ekolojisi, Bitki coğrafyası, Göller Yöresi, Isparta.

1.Introduction

In Türkiye, topographical, climatic, soil differences and social-cultural conditions have been made quite wealthy in respect of biodiversity. It is a center of origin and still a source of genetic diversity for numerous globally important agricultural, horticultural, medicinal, aromatic, ornamental and woody crop plants **[1].** The country is across place of three different bio-geographic regions, named as Irano-Turanian, Mediterranean and Euro-Siberian each with its own endemic species and natural ecosystems **[2-4]**. Türkiye has very rich flora in woody and herbaceous plants. It is determined that flora of it contains almost 12.000 vascular plant taxa belonging to 174 families, 1244 genera and over 9500 species. In average each 20 day one new species, each year almos 20 species for Türkiye are recorded **[4].**

Türkiye is one of the leading countries for known endemism; about 35 % of the plant taxa in the flora are endemic to Türkiye **[2, 6].** The richest family in endemism of Türkiye is Asteraceae (Compositae) having a total 431 species, 40 % of which is endemic. 41 % of the 400 species of Fabaceae (Leguminosae) is endemic, and also 57 % of the 306 Lamiaceae (Labiatae) species is endemic. There are 10 genera endemic to Türkiye. It is this exceptional amount of endemism that places a huge responsibility on Türkiye to ensure that these species are adequately protected so as not to become endangered or extinct, particularly those, which provide crops upon which much of the world depends **[6].**

The Lakes Region has an important potantially in terms of economic plants. There are 190 for medicinal, 180 for food, 170 for horticulture purpose from of vascular plant taxa growing in only Isparta province. Isparta is an important province of Lakes Region which is containing abundant endemic number of taxa about 650, and nonendemic taxa number are around 1600 **[7, 8].** Burdur province of Lakes Region has about 400 endemic and 1200 nonedemic vascular plant taxa **[9].**

Although Türkiye has a rich floristic composition, the number of cultivating species doesn't reflect the native species richness. In general, exotic plants have been used for outdoor landscape plantation in urban. Nowadays, native plants in outdoor landscape plantation design in urban, rural and natural areas have received increasing attention. The usage and become widespread of native plants have attracted for aesthetic and functional landscape aims because of some various factors include raising the public awareness for nature conservation, to give important to landscape arrangement studies, natural a character materials, contribute to urban ecosystem, capability of adaptation to environmental conditions, rehabilitation of problematic areas, shelter and food sourch

for wildlife, and contribute to conservation of plant species and habitat diversity and sustainable.

The Lakes Region which has an important gene center contains a very rich flora. But these plants are used seldom for landscape and economic aims. It is usually knowed and used turfgrass plants instead of ground cover plant. On the contrary other ground cover plants are knowed not enough. Nowadays, some natural vascular plants in the region producted and exhibited as ground cover plants in parks of the city by the mayor of Burdur province **[9,10].** Also some native ground cover plants have being tested for last two years in Süleyman Demirel University, Botanical Garden by Dönmez, Özçelik, Fakir for one research project supported by TUBİTAK. But the research is not completed yet.

In this study, the concept of ground cover plants were defined in clearly and also some native ground cover plants of the Lakes Region are determined. In this context, it will be benefit some data including knowledge about botanical and ecological characteristics of these plants, the potential using for outdoor landscape aims.

Concept of Ground Cover Plants

Living plant materials are very important and dominant materials for landscape outdoor design. Ground covers plants might be seen often inconspicuous elements of a landscape plantation design. But ground covers serve many functions and aesthetics for landscape plantation design; to help link together ornamental plants, to require less maintenance (a saving of money and energy), most of these plants are easy to and low-growing (generally less than 12 inches) and spread easily are suitable ground cover plants, to less susceptible to disease or weed infestation, to promote water conservation (select suitable species to climate), to prevent soil erosion, as a design element, or where turfgrass is not practical, to reduce storm water runoff entering storm sewers and rivers reducing potential for downstream flooding/erosion and pollution, to do not require fertilizer or pesticides, to provide food, shelter and protection for wildlife, to provide shade to buildings, reducing energy requirements and to enhance to visual values by their color, texture and form. These plants solve scores of design and landscape management problems, reduce maintenance requirements, and add diversity and contrast to landscape spaces or settings. They furnish a transition between lofty trees and low lawns, and relieve monotony in spaces as they change with seasons. For centuries, ground cover plants have cloaked the earth's surface with a natural carpet of vegetation, protecting and nurturing the soil. These plants have adapted to their environments, thriving in the most formidable climates and poorest soils. Generations of agriculturist have used ground covers to conserve and enrich the soil nowadays, homeowners and landscapers plant them for various purposes in ornamental settings.

Concept of ground cover plants is defined differently by us, therefore; this concept must be defined clearly. For example, flora contains all plants growing on the soil surface. These indicate variety of design criters such as, texture, structure and color. Actually, all plants can be considered ground covers because they all help secure and sustain soil. However, ground covers are plants that exhibit low or horizontal growth habits, spread rapidly, and protect the soil from erosion. They include plants that naturally or with minimal pruning or mowing range in height from less than 1 inch up to 3 feet tall **[11].**

[12] described ground covers as shelters that cover and grow in height from 3-5 cm up to 1-2 m from soil surface. *According to another definition,* these plants are usually called as evergreens, which can be perennial herbaceous and woody plants in height from 3-5 cm up to 3-5 meters, and grow and cover soil surface closely **[13].**

In this study, ground cover plants are defined as "annual or perennial herbaceous, semiwoody or sometimes woody plants whose above ground parts grow closely to soil surface and cover soil surface densely with approximately 30 cm in height". There is a relationship between plant and human height. In this context, these plants are the only plants that can be seen by eye level of a person who is laying on ground. The ground covers include a wide range of plant types-evergreen to decidous, flowering and nonflowering, creeping or upright. There is a ground cover plants available for virtually any setting, need and climate.

These plants are divided two classes: one includes all turf grass species and the other group contains herbaceous and woody plants. Among these plants there are those specifically suited for certain growing conditions, such as wet, shade, and as well as plants that are adapted to a wide range of environments.

Turfgrass which exculusively belong to Poaceae (Gramineae) family is the best known and most commonly used living ornamental ground cover. These plants are ideal for certain settings for their aesthetic and functional advantages. Some of these advantages are visual effects, continual cutting, resistance to weight pressure, full and continual covering, make recreation activities possible, although there are some disadvantages as well such as, high cost of establishment and maintenance. Other ground covers plants, are also becoming an alternative to turfgras, have a lot of families, genera and species. These plants are a group of versatile plants that includes annuals, perennials and even some low growing shrubs. As all ready know, it is explained that scientific identity of all plants is situated in systematic. Life forms that representing adaptation to environmental conditions contains common characteristics, behaviors and functionals of plants. One of the common characteristics is ground covering characteristic. According to Raunkier, life form of ground cover plants usually Chamaephyt group that has perennial herbaceous and semiwoody plants. However, Hemicryptophyt (*Sarcopoterium spinosum, Onobrychis cornuta, Astragalus* spp., *Taraxacum* spp., *Teucrium polium, Viola odorata,*), Phanerophyt (*Juniperus sabina* Cv."Tamariscifolia", *J. s.* Cv. "Buffalo", *J. communis* Cv. "Echiniformis", *J. horizan* Cv. "Emerald Spreader" *J. horizantalis* "Wiltonii" and some nana plants or climbings plants (*Hedera helix, Clematis* spp., *Vincetoxicum* spp. etc.) follow them **[13, 14].**

Ground cover plants must have some special features for aesthetic and functional aims. Therefore, it is preffered perennials and evergreen plants that have rapid and suitable grow up, assist in aesthetic to landscape spaces with characteristics of plant portions, resistant to stress and closely or shorth cutting. For a plant to be a good ground cover, it should have a dense growth habit, be easy to establish, look good in mass, shade out unsightly weeds and possess beauty. It is often beneficial if the plant has the ability to hold the soil and prevent erosion. Althought there are very much ground cover plants in nature, most of them can not being used for landscape aims. Some of natural ground cover plants had been hybridized and cultured. If natural ground cover plants use for

landscape aims it will be get useful for to get rich of using plant materials, to profit for an economic value to a plant, to get In-Situ conservation of plants, to make conscious persons and others.

2. Material and Methods

The study area (Lakes Region) which located in Western Anatolia is floristically an interesting region of Türkiye. The study area located in the Mediterranean and Irano-Turanian phytogeographical regions and B3, B4, C1, C2, C3, C4 grid squares used by [15]. Altitude of the area varies from 190 m to 3300 meters [4]. The materials of ground cover plants were collected and determined by us in survey studies among 2000 and 2004 from Lakes Region and also were benefited from some literatures [4, 8-9, 15-18]. All collected plant specimens were numbered and deposited in the Herbarium of Süleyman Demirel University (**GUL Herbarium**). Botanical and ecological characteristics of these taxa were showed with field observations and records in **Table 3**. The occurred plant list was given alphabetically in Latin. Some plants which have no collection number were observed in the area. It has no needed again their specimens for being collected before by us. Identification of the plants was made by us according to "Flora of Turkey and East Aegean Islands [15]. During field studies, it was particularly taken care to get a sufficient production material (seeds, rhizomes, bulbs etc.) and their photos. Abbreviations used in Table 3 were showed in Table 1. Families and their taxa number arer being given Table 2.

3. Findings

According to the results (Table 3), totally 175 vascular plant taxa belonging to 28 families and 79 genera were determined. 44 of them are belonging to Fabaceae family. The family is bigger than other families on the subject (Table 3). Their distributions to life forms of the taxa and rations are as follows: Chamaephytes 81 (46.2 %), Hemicryptophytes 71 (40.5 %), Therophytes 12 (6.8 %), Geophytes 7 (4.0 %) and Phanerophytes 4 (2.2 %). 80 taxa of them are endemic to Türkiye and endemism ratio is 46 %. On the other hand, distributions to phytogeographical regions of ground cover vascular plants growing in the study area as Mediterranean elements 48 (27.0 %), Irano-Turanian elements 44 (25.0 %), Euro-Siberian elements 13 (7.0 %), many regionous 10 (6.0 %) and unknown 60 (34.0 %). The majority of these plants is perennial herbaceous and semiwoody plants.

In general, identified native plants have been grown various in natural habitats and altidutes include slopy and rocky places, steppe, the clearings or forests areas, meadows and edges of stream. Majority of these plants have been undertaken very important functions in their natural habitat like ground cover. These ground cover plants are ideal and can be used for landscape plantation design for various aims (Table 3).

***For rock gardens*:** Some native plants like *Arabis aubrietioides*, *Aubrieta pinardii*, *A. anamasica*, *A. canascens* subsp. *canescens*, *Bolanthus minuartioides*, *B. thymoides*, *Helichrysum chasmolycicum*, *Inula anatolica*, *Nepeta plinux*, *Omphalodes ripleyana*, *Pterocephalus pinardii*, *Sedum* spp., *Rosularia libanotica* and *Thymus* spp. could be used.

For eroded or slopy places: Some native plants like *Alyssum alyssoides, Arabis aubrietioides,* some perennial *Astragalus* spp. and *Acantholimon* spp., *Aubrieta* spp., *Bolanthus* spp., *Coronilla varia* subsp. *varia, Cynodon dactylon,* perennial *Dianthus* spp., *Draba bruniifolia, Genista burdurensis, Erodium pelargoniiflorum, Hedysarum hedysaroides, Herniaria psidica, Lagotis stolonifera, Lamium cymbalariifolium,* perennial *Marrubium* spp., perennial *Minuartia* spp., perennial *Onobrychis* spp., *Paronchia* spp., *Pterocephalus pinardii, Ranunculus demissus, Rosularia libanotica, Sedum* spp., *Scutellaria orientalis,* perennial *Silene* spp., *Telephium imperati, Teucrium montanum, T. polium, T. chamaedrys,* perennial *Thymus* spp., *Thlaspi papillosum, Trifolium barbulatum, Trigonilla cretica, Vinca herbacea, V. major, Vincetoxicum canascens* subsp. *pedunculata* and *Viola odorata* could be advised.

For shadowy places*:* Some native plants like *Inula anatolica, Physalis alkekengi, Ranunculus repens, Thymus* spp., *Teucrium chamaedrys, Origanum saccatum,O. minutiflorum, O. vulgare, Tussilago farfara* and *Vinca herbacea, V. major, Primula* spp., *Hedera helix* could be advised.

For moistly and marshy areas: Some native plants like *Globularia trichosantha, Gypsophila curvifolia, Ipomoea stolonifera,* perennial *Lotus* spp., *Medicago lupulina, Origanum vulgare, Parnassia palustris, Primula* spp., *Potentilla* spp., *Ranunculus repens, Trifolium* spp., *Tussilago farfara, Veronica bornmuellerii, Veronica jacquinii* and *Vinca herbacea* could be used.

For their decorative, aestehetic caharacteristics and beautiful flowers: Some of native plants like *Lamium cymbalariifolium, Lotononis genistoides, Gypsophila arrostii, Hedera helix, Ipomoea purpurea, Convolvulus* spp., *Moltkia aurea, Paronchia* spp., *Pelargonium endlicherianum, Physalis alkekengi, Salvia tomentosa, Saponaria pumilio, Scutellaria orientalis, Thymus* spp., *Trifolium barbulatum, Veronica* spp., *Vicia* spp., *Viola odorata* and *Ziziphora clinopodioides* could be advised.

4. Results

Lakes Region has a very rich center in plant diversity and a very hight endemism ration. According to the systematic list, majority of idendified natural plants might be used as a good ground cover plants for different aims and conditions (Table 3). Potential ground cover plants should be researched usage for landscape aims in urban and rural ecosystem with other studies. Therefore, the plants should be done cultivating and adapting studies in urban ecosystem. Finally, cultivation of potential natural plants will be contribute plant diversity for landscape plant design and became widespread of endemic or endangered plants. In addition, the plants will be better adaptation to local conditions and decrease to usage of egzotic plants in urban green spaces. In this context, usage of true native plants to landscape aims will be given an opportunity for the best ideal landscape arrangements.

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Table 1. Abbreviations/symbols and their means used in Table 3

Population size in the locality	**1:** too large
	2: abundantly
	3: enough
	4: seldom
	5: rarely
Distribution to geographical region of plants	**Med.:** Mediterranean element
	Ir-Tur.: Irano-Turanian element
	Euro-Sib.: Euro-Siberian element
	MR: More Regionous
	Uk: Unknown
Endemism status of plant	**E:** Endemic taxon
	NE: Not Endemic taxon
Evergreen or decidious status of plant	**E:** Evergreen
	HE: Half Evergreen
	D: Deciduous
Life time status of plant	P: Perennial
	B: Biannual
	A: Annual
Leaf color of plant	**G:** Green
	DG: Dark Green
	Y: Yellow
	Gr: Grey
	B: Blue
	R: Red or Reddish
Flower color of plant	**G:** Green
	Y: Yellow
	Gr: Grey
	B: Blue
	R: Red
	W: White
	C: Crem
	P: Pink
	Pu: Purple
	O: Orange
	Va: Variable (More than two colors)
	Uk: Unknow
Growing parts of plant	**S:** Stolonous
	Rh: Rhizomatous
	R: Root
	Se: Seed
	T: Tuber

Table 2. The taxon numbers and percent ratios of idendified plants according to the families.

	Name of Family	Taxon Number	Percentage Ratio
1	Araliaceae	1	0,01
2	Asclepiadaceae	1	0,01
3	Asteraceae/Compositae	20	0,11
4	Boraginaceae	3	0,02
5	Brassicaceae/Cruciferae	8	0,05
6	Campanulaceae	2	0,01
7	Caryophyllaceae	25	0,14
8	Convolvulaceae	4	0,02
9	Crassulaceae	5	0,03
10	Dipsacaceae	1	0,01
11	Fabaceae/ Leguminosae	44	0,25
12	Geraniaceae	5	0,03
13	Globulariaceae	1	0,01
14	Illecebraceae	4	0,02
15	Lamiaceae/ Labiatae	23	0,13
16	Malvaceae	1	0,01
17	Parnassiaceae	1	0,01
18	Plantaginaceae	1	0,01
19	Plumbaginaceae	1	0,01
20	Poaceae/ Gramineae	2	0,01
21	Primulaceae	3	0,02
22	Ranunculaceae	5	0,03
23	Rosaceae	3	0,02
24	Scrophulariaceae	6	0,03
25	Solanaceae	1	0,01
26	Violaceae	2	0,01
27	Zygophyllaceae	1	0,01
28	Apocynaceae	1	0,01
	Total	**175**	**1,00**

Table 3. Botanical and ecological characteristics of some native ground cover plants of Lakes Region

Number	Names of Plants	Collection Number	Locations	Habitats	Altitudes (m) of Gathering Localities	Families	Population Size in Locations	Life forms	Geographical Distribition of Plants	Status of Endemism	Status of Evergreen	Status of Life Period	Plants Height (cm)		Leaf Color	Flower Color	Avarage covering degree (cm)	Status growing	Other Characteristics
													Min	Max.					
1	*Achillea clypeolata* Sm.	7088	Upper parts of Dedegül Mountains (Isparta)	Alpinic steppe	2000-2400	Asteraceae	2	Ch	Euro.-Sib.	NE	D	P	12	50	Gr	Y	40	Se	Resistant of drought
2	*Achillea lycaonica* Boiss. & Heldr.	7619	Between Burdur and Tefenni Road	Rocky and slopy places	800-1000	Asteraceae	2	Ch	Ir.-Tur.	E	D	P	20	40	G	Y	45	Se	
3	*Achillea nobilis* L. subsp. *sipylea* (O.Schwarz) Bassler	7463	Barla Mountain (Isparta)	Clearings in forest	1400-1600	Asteraceae	4	Ch	Med.	E	D	P	10	40	Gr	Y-W	40	Se	Dense leafy
		6915	Yaka (Aksu) Stream	Under forest areas	1400		5												
4	*Achillea phrygia* Boiss.& Bal.	6751	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Very sloping areas	1500-1800	Asteraceae	4	Ch	Ir.-Tur.	E	D	P	10	30	Gr	Y-W	40	Se	Dense leafy, a good ground covering on rocky and slopy places
		7178	Dedegül mountain and Kızıldağ National Park areas (Isparta)	Humid areas and clearings in forest	1500-1800														
5	*Achillea teretifolia* Willd.	7269	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300	Asteraceae	3	Ch	Ir.-Tur.	E	D	P	10	30	Gr	W	50	Se	A good ground covering on rocky and slopy places
6	*Achillea willelmsii* C. Koch	6750	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Very sloping areas	1500-1800	Asteraceae	1	Ch	Ir.-Tur.	NE	D	P	10	30	Gr	W	50	Se	A good ground covering on rocky and slopy places

7	*Alyssum alyssoides* (L.) L.		Periphery of Gölcük Lake and Halıkent (Isparta)	Macquis and rocky places	1000-1100	Brassicaceae	1	T	MR	NE	D	A	5	25	G	W	15	Se	
8	*Alyssum niveum* Dudley	7767	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Rocky places	2100-2400	Brassicaceae	5	T	Ir.-Tur.	E	D	P	5	15	Gr	W	15	Se	A good ground covering on rocky and slopy places
9	*Arabis aubrietioides* Boiss.		Periphery of Gölcük Lake and Karanlık Stream Locality (Isparta)	Clearing areas	1435	Brassicaceae	5	T	Uk	E	D	P	7	15	D G	P	30	R	A good ground covering on rocky and slopy places
10	*Astragalus cinereus* Willd.	7760	Kirazlıdere Locality (Isparta)	Macquis	1200	Fabaceae	2	Ch	Ir.-Tur.	E	E	P	7	20	G	Y-Pu	30	R	Semishrub
11	*Astragalus barbarea* Bornm.	7059	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Afforestation areas	1550-1600	Fabaceae	5	Ch	Ir.-Tur.	E	E	P	15	20	G	W	20	R	A little known plant and semishrub
12	*Astragalus campylosema* Boiss. subsp. *atropurpureus* (Boiss.) Chamberlain	7510	In the campus of S.D.University	Afforestation areas	1300	Fabaceae	5	Ch	Uk	E	E	P	10	25	D G-R	Y-R-V-P	20	R	Semishrub
13	*Astragalus christianus* L.	7547	Erenyaka Cemetery (Akseki)	Cemetery	650	Fabaceae	2	Ch	Uk	NE	E	P	20	40	Gr	W-Y	20	R	Semishrub
14	*Astragalus cinereus* Willd.		Kirazlıdere locality(Isparta)	Macquis	1200	Fabaceae	2	H	Ir.-Tur.	E	D	P	20	40	G	Y	30	R	Semishrub
15	*Astragalus gymnolobus* Fischer	6794	Çamdağı locality (Isparta)	Blackpine forests	1800	Fabaceae	2	Ch	Ir.-Tur.	E	E	P	5	30	G	W-Y-P	70	R	Spiny and semishrub
		7054	Pürenova locality (Gölcük Lake)	Cedar afforestation areas	1550-1600														
16	*Astragalus lycius* Boiss.	7529	Sütçüler (Isparta)	Blackpine forest	1300-1500	Fabaceae	4	Ch	Uk	E	E	P	20	35	G	P	30	R	Semishrub
17	*Astragalus microcephalus* Willd.	7276	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300	Fabaceae	2	Ch	Ir.-Tur.	NE	E	P	20	40	G	Y	50	R	Spiny and shrub
18	*Astragalus oxytropifolius* Boiss.	6640	The Campus of S.D.University	Macquis	1250	Fabaceae	4	H	Ir.-Tur.	E	D	P	15	30	Gr	P-Pu	30	R	Semishrub

19	*Astragalus panduratus* Bunge	7058	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Rocky and slopy places	1550-1600	Fabaceae	4	H	Ir.-Tur.	E	D	P	10	40	Gr	Y	30	R	
		7247	Periphery of Gölcük Lake (Isparta)	Eroded areas	1100-1400		2	Ch											
20	*Astragalus pinetorum* Boiss.	7065	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Afforestation areas	1550-1600	Fabaceae	2	H	Ir.-Tur.	E	D	P	10	30	G	Y	20	R	
21	*Astragalus prusianus* Boiss.	7234	in the Campus of S.D.University (Isparta)	Macquis	1100-1300	Fabaceae	4	Ch	Med.	E	E	P	20	30	G	Y	40	R	Spiny and shrub
		6688	Bahtiyar Village (Yalvaç-Isparta)	Steppe	1100		1												
		7781	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Blackpine forest and clearings	1700-1900		2												
22	*Astragalus sorgerae* Hub.-Mor. & Chamb.	7401	Dedegül mountains and and Periphery of Pınargözü (Yenişarbademli)	Blackpine forest and clearings	1600	Fabaceae	3	H	Ir.-Tur.	E	D	P	10	20	G	Y	20	R	
23	*Astragalus sparsipilis* Hub.-Mor. & Chamb.	7473	Upland of Aksu and Dedegül Mountains (Isparta)	Blackpine forest and clearings	2300	Fabaceae	5	H	Ir.-Tur.	E	D	P	8	15	G	V	20	R	
24	*Astragalus vulnerariae* DC.	6639	in the Campus of S.D.University (Isparta)	Macquis	1250	Fabaceae	3	Ch	Uk	E	D	P	10	30	G	Va	30	R	
		6874	Between Beyşehir and Konya roads, Fountain of E. Güngör	Ground floor in Forest	1560		2												
25	*Astragalus zederbaueri* Stadlmann	7208	Periphery of Gölcük lake and old nursery garden locality (Isparta)	Rocky and slopy places	1200	Fabaceae	2	Ch	Ir.-Tur.	E	D	P	10	20	Gr	W-Y	40	R	Aesthetic and a good ground cover plant

26	*Acantholimon acerosum* (Willd.) Boiss. var. *brachystachyum* Boiss.	7242	Ayazma and Sidre locality (Isparta)	Macquis	1200-1400	Plumbaginaceae	4	Ch	Ir.-Tur.	E	E	P	10	30	G	W	80	R	Spiny, semishrub and compact plant
27	*Aubrieta pinardii* Boiss.	7708	Tota Plateau (Sütçüler)	Rocky places	800	Brassicaceae	2	Ch	Ir.-Tur.	E	D	P	5	15	Gr	Pu	15	Se	A good ground cover plant on rock places
			Periphery of Gölcük lake (Isparta)	Cultivated lands	1100-1500		2												
		7185	Dedegül mountain and Kızıldağ National Park areas (Isparta)	Rocky places	1800		4												
		7336	Between Yalvaç and Akşehir roads	Rocky places	2200-2700		4												
28	*Aubrieta anamasica* Peşmen & Güner	6666	Upper of military region in Burdur	Macquis	800	Brassicaceae	3	Ch	Uk	E	D	P	5	15	Gr	Pu	15	Se	
29	*Aubrieta canascens* (Boiss.) Borm. subsp. *canescens*	6959	Between Isparta and -Dedegül Mountain roads	Rocky places	1800	Brassicaceae	2	Ch	Uk	E	D	P	5	15	Gr	Pu	15	Se	
		7177	Pine forests in Kızıldağ Natural Park	Moistly and opened areas	1500-1800		4												
30	*Bolanthus cherlerioides* (Bornm) Bark.	7548	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Cultivated lands	1650-1900	Caryophyllaceae	2	Ch	Med.	E	E	P	5	15	G	W-P-Pu	20	R	Needle leafy and a good covering on volconic places
		7264	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Steppe	1650-1900		2												
		7957	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Alpinic steppe and sloping places	1800-2300		4												
31	*Bolanthus frenkenioides* (Boiss).Bark. var. *frenkenioides*	7926	Altınyayla – Kızılalan localities (Burdur)- Belbaşı site	Alpinic steppe	1575	Caryophyllaceae	5	Ch	Med.	E	E	P	5	15	G	P	20	Se-R	Good growing on meadowy places

		9161	Sidre and Karatepe hills (Isparta)	Clearings in forest	1200		5												
32	*Bolanthus minuartioides* (Jaub.&Spach.) Hub.- Mor.	7899	Between Isparta and Burdur roads (Yakaören and Gelincik villages)	Clearings in forest	1200-1400	Caryophyllaceae	3	Ch	Med.	E	E	P	5	15	G	W	30	Se-R	It is mass form, a good ground covering on alpinic meadows places
		7903	Gölhisar and Karaatlı viilage locality (Burdur)	Steppe	1240		4										25		
		7905	Salda Lake and Yeşilova(Burdur)	Volcanic rocky	1210		4										25		
		7906	Between Yeşilova(Burdur) and Karamanlı roads	Rocky places	1040		4										20		
		7917	Between Dirmil and Yeşilova roads	Volcanic rocky and clearing in forest	1180		4										20		
		7956	Crossroad of Eğirdir-Barla	Clearings in forest	1200		3										20		
		8195	Afyon-Sandıklı locality, Başaş small town and Ürküt plateau	Sloping areas	1210		3										25		
		9024	Between Akseki and Cevizli roads	Vineyard areas	1000		4										20		
		7717	Juniper forests in Atabey MYO garden (Isparta)	Steppe and limy areas	1200		4										20		
		9159	Karatepe and Sidre hills (Isparta)	Clearings in forest	1700		4										20		
33	*Bolanthus thymoides* Hub.& Mor.	7927	Altınyayla and Kızılalan locality (Burdur)	Alpinic steppe	1575	Caryophyllaceae	4	Ch	Med.	E	E	P	5	15	G	W	20	Se-R	
		9162	Karatepe and Sidre hills (Isparta)	Clearings in forest	1200														
34	*Bufonia calyculata* Boiss. & Bal.	7587	Çandır-Yazılı Kanyon Nature Park and Sütçüler (Isparta)	Rocky places	450-600	Caryophyllaceae	2	Ch	Uk	E	D	P	15	25	G	W	20	Se-R	Flowers are very small

35	*Campanula iconia* Phitos	6778	Between Gelendost and Akşehir roads	Steppe	1600-2000	Campanulaceae	5	H	Ir.-Tur.	E	D	B	15	20	G	Uk	20	Se	Flowers are very beatiful, growing on moistly and rocky places
36	*Campanula cymbalaria* Sm.	6766	Periphery of Gölcük Lake (Isparta)	Moistly rocky places	1000-1200	Campanulaceae	1	H	Med.	NE	D	P	10	20	G	B	30	Se	
37	*Centaurea bornmuelleri* Hauskn. ex. Bornm.	7460	Barla Mountain (Isparta)		1400-1600	Asteraceae	2	H	Ir.-Tur.	E	D	P	30	50	Gr	Pu	30	Se	
38	*Centaurea calolepis* Boiss.	7097	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Asteraceae	4	H	Med.	E	D	P	20	40	Gr	Pu	30	Se	
39	*Centaurea drabifolia* Sm. subsp. *detonsa* (Bornm.) Wagenitz	7668	Aksu and Dedegül Mountain, top of Kapiz stream (Isparta)	Rocky places	2000	Asteraceae	4	H	Uk	E	D	P	20	25	Gr	Y	30	Se	
40	*Centaurea drabifolia* Sm. subsp. *cappadocica* (DC.) Wagenitz.	7147	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Asteraceae	4	H	Uk	E	D	P	20	25	Gr	Y	30	Se	
		7322	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky steppe	2200-2700		4												
		7456	Dedegül mountain and Pınargözü site (Isparta)	Blackpine forest and clearings	1600		2												
41	*Centaurea germanicopalitana* Bornm.	7146	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Asteraceae	4	H	Ir.-Tur.	E	D	P	10	15	Gr	Pu	20	Se	
		7323	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky steppe	2200-2700		4												
42	*Centaurea kotschyi* (Boiss.& Heldr.) Hayek	7324	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Alpinic steppe	2200-2700	Asteraceae	4	H	Ir.-Tur.	E	D	P	5	40	Gr	Y	25	Se	

43	*Centaurea kotschyi* (Boiss.& Heldr.) Hayek var. *kotschyi*	6702	Between Konya and Hadim roads (Çiçek village)	Cultivated lands	1375	Asteraceae	4	H	Ir.-Tur.	E	D	P	5	40	Gr	Y	25	Se	
44	*Centaurea triumfettii* All.	7787	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Blackpine forest and clearings	1700-1900	Asteraceae	4	H	MR	NE	D	P	5	30	Gr	Va	30	Se	
45	*Cerastium anomalum* Waldst.& Kit.		Periphery of Gölcük Lake (Isparta)	Road edges	1100	Caryophyllaceae	3	T	Uk	NE		P	5	30	Gr	W	15	Se	
46	*Cerastium banaticum* (Roch.) Heuffel	6749	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Eroded areas	1500-1800	Caryophyllaceae	3	H	Uk	NE	D	P	5	25	Gr	W	40	Se-S	Flowers are very beatiful, the flowering is continuing long period, a good ground cover plant
		7267	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300														
			Periphery of Gölcük Lake (Isparta)	Road edges	1100m														
47	*Chamaecytisus eriocarpus* (Boiss.) Rothm.	6754	Periphery of Gölcük Lake (Isparta)	Blackpine forest and clearings	1700	Fabaceae	3	Ch	Med.	NE	D	P	25	50	Gr	Y	40	Se	Shrub
48	*Clematis vitalba* L.	9144	Termossos Güllük Montains National Park	Clearings in macquis	1200	Ranunculaceae	2	Ch	Uk	NE	D	P	300	500	G	W-Y	100-300	Se-R	Climbing plant
49	*Clematis flammula* L.		Between Konya and Isparta roads	Clearings in macquis	900	Ranunculaceae	3	Ch	Med.	NE	D	P	300	500	G	W-Y	100-300	Se-R	
50	*Clematis cirrhosa* L.		Between Antalya and Akseki (Erenyaka village)	Cultivated areas	700	Ranunculaceae	3	Ch	Med.	NE	D	P	300	500	G	W-Y	100-300	Se-R	
51	*Convolvulus arvensis*		Between Antalya and Akseki (Erenyaka village)	Cultivated areas	1200	Convolvulaceae	1	H	MR	NE	D	P	60	80	G	W	30-50	Se-R	
52	*Coronilla emerus* L. subsp. *emeroides* (Boiss. & Sprun.) Uhrova	7241	Ayazma park and Sidre hill site (Isparta)	Clearings in macquis	1200-1400	Fabaceae	2	Ph	Uk	NE	D	P	25	35	G	Y	30	Se	Shrub

53	*Coronilla varia* L. subsp. *varia*	7674	Aksu and Dedegül mountains, top of Kapiz stream (Isparta)	Rocky places	2000	Fabaceae	2	Ph	Uk	NE	D	P	15	40	G	Va	100	Se	A good ground covering on slopy places
		7467	Between Şarkikaraağaç and Yalvaç roads (Bahtiyar Village)	Steppe	1300														
54	*Cyclamen mirabile* Hildebr.	6803	Akseki, (Antalya) , Erenyaka village and Sokmak site	Quercus macquis	800	Primulaceae	2	G	Med.	E	D	P	3	6	D G	P-R	20	T	Growing at shadowy, on limestone and metamorphic rocks places
55	*Cynodon dactylon* (L.) Pers.		Periphery of Gölcük Lake (Isparta)	Clearing areas	1405	Poaceae	1	G	Uk	NE	E	P	25	35	G	W	30-50	R	Dry stony hill slopes, rhizomes spreading, a good ground cover plant
56	*Dactylıs glomerata* L. subsp. *glomerata*		Periphery of Gölcük Lake and Pilav hill (Isparta)	Blackpine forest and clearings	1410	Poaceae	1	Ch	Euro.-Sib.	NE	E	P	15	100	G	W	25	R	Rhizomes spreading, a good ground cover plant
57	*Dianthus anatolicus* Boiss.	7109	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Caryophyllaceae	3	Ch	Uk	E	NE	P	8	40	G	W	20	R-Se	Rocky places
58	*Dianthus carmelitarum* Reut. ex Boiss.		Periphery of Gölcük Lake (Isparta)	Road edges	1100	Caryophyllaceae	3	Ch	Euro.-Sib.	E	NE	P	15	40	G	P	20	R-Se	Rocky places
59	*Dianthus eldivenus* Czecz.	7108	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Caryophyllaceae	4	Ch	Uk	E	NE	P	8	35	G	W	20	R-Se	Rocky places
60	*Dıanthus floribundus* Boiss.		Periphery of Gölcük Lake and Pilav hill (Isparta)	Road edges	1410	Caryophyllaceae	3	Ch	Ir.-Tur.	NE	NE	P	20	35	G	W-P	20	R-Se	Stony and slopy places
61	*Dianthus orientalis* Adams in Weber & Mohr.	6752	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Sloping areas	1500-1800	Caryophyllaceae	2	Ch	Ir.-Tur.	NE	NE	P	15	40	G	P	20	R-Se	Rockyand and slopy places, an extensive creeping woody base
			Periphery of Gölcük Lake and Pürenova locality (Isparta)	Alpinic steppe	1700-2000														

62	*Dianthus zonatus* Fenzl. var. *zonatus*		Periphery of Gölcük Lake and Halıkent (Isparta)	Clearings in macquis and rocky places	1000-1100	Caryophyllaceae	2	Ch	Uk	E	NE	P	7	30	G	P	20	R-Se	
63	*Dorystoechos hastata* Boiss. & Heldr.	9142	Termossos Güllük Mountain Natural Park	Rocky areas in macchie	1200	Lamiaceae	3	Ph	Med.	E	E	P	30	70	G	W	80	Se-R	Shrub, aromatic plant, growing on rocky places
64	*Draba bruniifolia* Stev. subsp. *heterocoma* (Fenzl) Coode & Cullen var. *nana* (Stapf) Schulz	7117	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Brassicaceae	4	Ch	Uk	E	NE	P	1	10	G	Y	20-30	Se	Rocky and slopy places
		7332	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky steppe	2200-2700		2												
65	*Erodium pelargoniiflorum* Boiss. & Heldr.	7782	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Blackpine forest and clearings	1700-1900	Geraniaceae	2	G	Uk	E	NE	P	12	30	Gr	W	30	Se	Shadowy and limestone rocks places
66	*Genista burdurensis* P. Gibbs	7786	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Blackpine forest and clearings	1700-1900	Leguminosae	3	Ch	Ir.-Tur.	E	NE	P	15	20	G	Y	30	Se	Horizontal growing
67	*Geranium colombinum* L.	7839	Aksu-Pınargözü picnic areas in Dedegöl Mountain (Isparta)	Alpinic steppe	2200-2400	Geraniaceae	2	T	Uk	NE	NE	A	10	40	Gr	P-Pu	30	Se	A good ground cover plant on rocky and slopy places
68	*Geranium lasiopus* Boiss. & Heldr.	7637	Barla mountain (Isparta)	Underside blackpine forest and cultivated fields	1750-2000	Geraniaceae	4	H	Ir.-Tur.	E	NE	P	10	15	Gr	Pu	30	Se	A good ground cover plant on rocky and slopy places
69	*Geranium glaberrimum* Boiss. & Heldr.	7114	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Geraniaceae	2	H	Med.	E	NE	P	10	30	Gr	R-Pu	30	Se	Growing in crevices of limestone rocks places
70	*Globularia trichosantha* Fisch. & Mey.	7230	in the Campus of S.D.University (Isparta)	Clearings in macquis	1100-1300	Globulariaceae	2	H	Ir.-Tur.	NE	NE	P	5		G	B	60	Se-S	A good ground cover plant. Flowering is contiuning long periyod and cluster.
71	*Gypsophila arrostii* Guss. var. *nebulosa* (Boiss. & Heldr.) Bark.	7568	Between Ilgın and Beyşehir road	Afforestation areas	1000	Caryophyllaceae	4	H	Ir.-Tur.	E	NE	P	30	60	G	P-W	100	R-Se	Flowering are contiuning long periyod.

		7849	Between Konya and Seydişehir road. (20 km from Konya)	Dry stone places	1300		2											
		6638	in the Campus of S.D.University (Isparta)	Clearings in macquis	1250		4											
72	*Gypsophila curvifolia* Fenzl.	7335	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky and slopy places	2200-2700	Caryophyllaceae	2	H	Uk	E	NE	P	10	40	G	P-W	50	Se	
73	*Gypsophila perfoliata* L.	7558	Between Ilgın and Beyşehir road (33 km from Ilgın)	Cultivated lands	1000-1500	Caryophyllaceae	4	H	Uk	NE	NE	P	20	120	G	W-P	100	Se-R	
74	*Hedera helix* L.		Periphery of Gölcük Lake, between Isparta and Gölcük Lake roads (Isparta)	Edges of stream	1350	Araliaceae	2	Ch	Uk	NE	E	P	up to 3000		D G	Y	100	Se-S	The creeping, climbing and a good ground cover plant. It has woody stems.
75	*Hedysarum hedysaroides* (L.) Schinz & Thell.	7236	in the Campus of S.D.University (Isparta)	Clearings in macquis	1100-1300	Fabaceae	4	Ch	Uk	NE	NE	P	12	30	G	Va	75	R	Stems erect or ascending, arising from a woody rootstock
76	*Helichrysum chasmolycicum* P.H. Davis	7838	Aksu-Pınargözü picnic areas and Dedegül Mountain (Isparta)	Alpinic steppe	2200-2400	Asteraceae	4	Ch	Med.	E	E	P	20	50	G	Y	75	Se	A good ground cover on rocky places and densely grey-felted. Flowering is contiuning long periyod and showy
77	*Helichrysum compactum* Boiss.	7363	Dedegöl Mountain and Pınargözü picnic areas (Isparta)	Clearings in rocky	2600-2800	Asteraceae	4	Ch	Med.	E	E	P	10	24	G	Y	75	Se	A good ground cover on rocky places and white felted. Flowering is contiuning long periyod and showy
78	*Helichrysum heywoodianum* P.H. Davis	7337	Dedegöl Mountain and Pınargözü picnic areas (Isparta)	Rocky places	2600-2800	Asteraceae	4	Ch	Med.	E	E	P	10	24	G	Y	75	Se	A good ground covering on rocky places and dense glandular. Flowering is contiuning long

periyod and showy

79	*Helichrysum plicatum* DC. subsp. *plicatum*	7555	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Cultivated lands	1650-1900	Asteraceae	2	Ch	Med.	NE	E	P	4	40	G	Y	75	Se	Strongly glandular, woody branching horizantal caudices. Flowers are long periyod and showy
80	*Herniaria psidica* Brummitt	7617	Between Burdur and Tefenni roads. (15 km from Burdur)	Rocky places and abandoned fields	800-1000	Illecebreceae	4	H	Uk	E	E	P	15	20	G	Gr-Y	30	Se	A good ground covering on slopy places
81	*Inula anatolica* Boiss.	7286	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300	Asteraceae	4	H	MR	E	E	P	10	20	Gr	Y	30	Se	Flowers are a small, the flowering is contiuning long period during summer. Color of leaf is grey. It is growing on rocky places
82	*Ipomoea stolonifera* (Cyr.) J.F. Gmelin		Periphery of Eğirdir Lake (Isparta)	Edges of stream	900-1000	Convolvulaceae	1	Ch	Med.	NE	D	P	60	75	G	W-C	30-50	Se-S	A good ground cover on edges of stream
83	*Ipomoea sagitata* Poiret		Periphery of Eğirdir Lake (Isparta)	Edges of stream	900-1000	Convolvulaceae	1	Ch	Med.	NE	D	P	65	75	G	W-C	30-50	Se-S	A good ground cover on edges of stream
84	*Ipomoea purpurea* (L.) Roth		Periphery of Atabey (Isparta)	Cultivated lands	900-1000	Convolvulaceae	1	Ch	Med.	NE	D	P	65	75	G	W-C	30-50	Se-S	A good ground cover and creeping plant. Cultivated plant
85	*Lagotis stolonifera* (C. Koch) Maxim		Dedegül Mountain (Isparta)	Meadows places	1800	Scrophulariaceae	4	G	Ir.-Tur.	NE	E	P	2	15	G	B	30	Se-S	A good ground cover plant
86	*Lamium cymbalariifolium* Boiss.	7652	Barla Mountain (Isparta)	Blackpine forest and clearings	1750-2000	Lamiaceae	2	H	Med.	E	NE	P	15	30	G	B	30	Se	The flowers are very showy

87	*Lathyrus tukhtensis* Czecz.	7790	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Blackpine forest and clearings	1700-1900	Fabaceae	2	H	Uk	E	NE	P	15	30	G	B	30	Se	The flowers are very showy
88	*Lotononis genistoides* (Fenzl) Benth.	6642	in the Campus of S.D.University (Isparta)	Clearings in macquis	1250	Fabaceae	2	H	Ir.-Tur.	NE	NE	P	15	30	G	Y	50	Se-R	A good ground cover plant, prostrate, adpressed- hairy herbs
		7229	in the Campus of S.D.University (Isparta)	Clearings in macquis	1100-1300														A good ground cover plant, prostrate, adpressed- hairy herbs
89	*Lotus corniculatus* L. var. *alpinus* Ser.	7684	Aksu-Pınargözü picnic areas (Isparta)	Edges of stream and forest clearings	1700	Fabaceae	2	H	MR	NE	E	P	0	20	G	Y	30	Se-R	A good ground cover plant
90	*Lotus corniculatus* L. var. *tenuifolius* L.	7245	Periphery of Gölcük Lake	Steppe areas	1100-1400	Fabaceae	2	H	MR	NE	E	P	0	20	G	Y	30	Se-R	A good ground cover plant
91	*Lotus palustris* Willd.	7272	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300	Fabaceae	2	H	Uk	NE	E	P	15	30	G	Y	30	Se-R	A good ground cover plant on marshy places
		7154	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800		4												
92	*Malva neglecta* Wallr.		in the Campus of S.D.University (Isparta)	Cultivated lands	1000-1300	Malvaceae	2	H	MR	NE	E	P	12	18	G	W	40	Se	Rapid growing and a good ground cover plant
93	*Marrubium bourgaei* Boiss. subsp. *bourgaei*	6753	Periphery of Gölcük Lake (Isparta)	Eroded areas	1300-1700	Lamiaceae	2	H	Med.	E	E	P	20	30	Gr	W	40	Se	
94	*Marrubium globosum* Montbret & Aucher ex Bentham subsp. *micranthum* (Boiss. & Heldr.) P.H. Davis	8324-	Karatepe and Sidre hills (Isparta)	Clearings in forest	1200	Lamiaceae	3	H	Med.	E	E	P	20	30	Gr	W	40	Se	
		8362	Sütçüler Sarıçiçek plateau (Isparta)	Clearings in forest	2300														

95	*Medıcago lupulina* L.		Periphery of Gölcük Lake and Halıkent (Isparta)	Clearings in macquis	1000-1100	Fabaceae	2	H	Uk	NE	E	P	15	60	G	B	30-60	Se	Rapid growing and a good ground cover plant
96	*Medıcago sativa* L. subsp. *sativa*		Periphery of Gölcük Lake (Isparta)	Picnic areas	1403	Fabaceae	2	H	MR	NE	E	P	15	60	G	B	30-60	Se	Rapidly and horizontal growing, a good ground cover plant
97	*Medicago* x *varia* Martyn.		Periphery of Gölcük lake and old nursery garden locality (Isparta)	Clearing areas	1440	Fabaceae	2	H	Uk	NE	E	P	15	75	G	B	30-80	Se	Rapidly growing, a good ground cover plant
98	*Minuartia umbellulifera* (Boiss.) McNeill subsp. *umbellulifera* var. *umbellulifera*	7066	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Clearings in rocky and forest	1550-1600	Caryophyllaceae	2	H	Uk	E	NE	P	10	30	G	W-Y	30	Se	Leaf is sharp and spiny
99	*Moltkia aurea* Boiss.	7237	in the Campus of S.D.University (Isparta)	Clearings in macquis	1100-1300	Boraginaceae	2	H	Ir.-Tur.	E	NE	P	10	30	G	Y	30	Se	Flowering is contiuning long periyod and imposing
		7263	Between Isparta and Yalvaç roads (30 km from away Yalvaç)	Steppe	1500-1700														
100	*Moltkia coerulea* (Willd.) Lehm.		in the Campus of S.D.University (Isparta)	Clearing areas	1100-1300	Boraginaceae	2	H	Ir.-Tur.	NE	NE	P	10	30	G	B	30	Se	Flowering is contiuning long periyod and showy
101	*Nepeta plinux* P.H. Davis	7104	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Lamiaceae	2	H	Med.	E	NE	P	20	50	Gr	W	30-40	Se	Growing on alpinic rocky places
102	*Omphalodes ripleyana* Davis	8341	Barla Mountain (Isparta)	Blackpine forest and clearings	1800	Boraginaceae	4	H	Med.	E	NE	P	10	30	G	B	30-50	Se	Flowering is contiuning long periyod and showy, growing on rocky places
		7763	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas	Rocky places	2100-2400		3												

103	*Onobrychis caput-galli* (L.) Lam.	7534	Dere boğazı Locality (Isparta)	Rocky places	1000-1100	Fabaceae	2	H	Med.	NE	E	P	5	40	G	B-P	30-60	Se	Rapidly growing and contribute to nitrogen to soil, a good ground cover plant.
104	*Onobrychis pisidica* Boiss.		Periphery of Gölcük Lake and Pürenova locality (Isparta)	Afforestation areas	1465	Fabaceae	3	H	Ir.-Tur.	E	E	P	30	60	G	P	30-60	Se	Rapidly growing and contribute to nitrogen to soil, a good ground cover plant.
105	*Ononis sessilifolia* Bornm.	7773	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas(Isparta)	Rocky places	2100-2400	Fabaceae	5	Ph	Ir.-Tur.	E	NE	P	3	5	G	Y	20	Se	Horizontal growing, semishrub
106	*Origanum minutiflorum* O. Schwarz & P.H. Davis	8321	Sütçüler - Müezzinler village	Clearings in forest and rocky areas	800	Lamiaceae	2	H	Med.	E	E	P	15	40	Gr	W	40-60	Se	
107	*Origanum vulgare* L.		Barla Mountain (Isparta)	Clearings in forest and rocky areas	1200	Lamiaceae	3	H	Euro.-Sib.	NE	E	P	15	70	G	B	40-60	Se-S	Rapidly growing, a good ground cover plant
108	*Parnassia palustris* L.	7292	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Clearings in forest and meadows areas	1800-2300	Parnassiaceae	2	H	Euro.-Sib.	NE	NE	P	5	20	G	W	15	Se-R	Flowers are showy. Leafs are rosette form.
		7683	Aksu-Pınargözü picnic areas (Isparta)	Edges of stream and clearings in forests	1700														
109	*Paronchia davisii* Chaudhri	7107	Top places of Dedegül Mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Illecebreceae	2	H	Med.	E	E	P	3	8	Gr	W	30	Se	Flowering is contiuning a long periyod and showy. Bracts cover leaves and similar to flower. A good ground cover plant
		7238	in the Campus of S.D.University (Isparta)	Clearings in macquis	1100-1300														
		7256	Periphery of Gölcük Lake and Pürenova site (Isparta)	Alpinic steppe	1600-1800														

110	*Paronchia mughlaei* Chaudhri	6878	Between Konya and Beyşehir roads. (15 km from Beyşehir)	Cultivated lands	1300	Illecebreceae	5	H	Med.	E	E	P	3	8	Gr	W	30	Se	Flowering is contiuning a long periyod and showy. Bracts cover leaves and similar to flower. A good ground cover plant
		7772	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Rocky places	2100-2400		4												
111	*Paronchia chionaea* Boiss.		Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky places	2600-2800	Illecebreceae	3	H	Med.	E	E	P	3	8	Gr	W	30	Se	Flowers are long periyod and showy. Brachtes cover on leaf and similar to flower. A good ground cover plant
112	*Pelargonium endlicherianum* Fenzl	6701	Between Hadim and Çiçek village roads (Konya)	Cultivated lands	1375	Geraniaceae	2	G	MR	NE	NE	P	10	30	G	Pu	30	Se-R	Flowers are very beatiful. A good ground cover plant.
113	*Physalis alkekengi* L.	8913	Kovada çayı Arboretum Locality (Sütçüler)	Blackpine forest and clearings	250	Solanaceae	3	G	Uk	NE	NE	P	10	30	G	W	50	Se-R	Fruits are red and showy.
		8990	Kirazlıdere site (Isparta)	Edges of forests	1100														
		7606	Between Isparta and Sütçüler roads (closeness to Ayvalı pınar)	Edges of forests	1200														
114	*Plantago holosteum* Scop.	7183	Dedegül Mountains, Kızıldağ National Park (in black pine forests)	Meadows	1700	Plantaginaceae	2	H	Med.	NE	NE	P	4	30	G	W	20-30	Se	
115	*Potentilla reptans* L.		Dedegül mountains	Meadows	1200-1500	Rosaceae	2	H	MR	NE	E	P	10	30	Gr	Y	50	Se-S	Flowers are very beatiful. Good growing on meadowy places

116	*Potentilla kotschyana* Fenzl	7131	Top places of Dedegül mountain and periphery of Karagöl	Alpinic steppe	2400-2800	Rosaceae	2	H	Med.	NE	E	P	10	40	Gr	Y	40	Se	
117	*Primula veris* L.		Aksu-Pınargözü picnic areas (Isparta)	Clearings in forest	1500	Primulaceae	3	H	Euro.-Sib.	NE	E	P	10	40	G	Y	30-60	Se	Flowering is contiuning long periyod and showy
118	*Primula elatior* (L.) Hill		Periphery of Gölcük Lake (Isparta)	Clearings in forest	1300	Primulaceae	3	H	Euro.-Sib.	NE	E	P	10	40	G	Y	30-60	Se	Flowering is contiuning long periyod and showy
119	*Pterocephalus pinardii* Boiss.	7765	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Rocky places	2100-2400	Dipsacaceae	4	H	Med.	E	NE	P	1	5	Gr	Va	40	Se	Flowering is contiuning long periyod and showy on alpinic rocky places.
120	*Ranunculus demissus* DC. var. *major* Boiss.	7798	Davraz mountain (Isparta)	Alpinic steppe	2200	Ranunculaceae	4	H	Uk	E	NE	P	5	15	G	Y	20	Se	Rapidly growing.
121	*Ranunculus repens* L.		Kovada çayı Arboretum Locality (Sütçüler)	Meadows and swamp places	1200	Ranunculaceae	2	H	Uk	NE	E	P	15	40	G	Y	20-50	Se-S	Rapidly growing.
122	*Rosularia libanotica* (Lab.) Muirhead.	7678	Aksu and Dedegül Mountains, top of Kapiz stream (Isparta)	Rocky places	2000	Crassulaceae	3	H	Med.	NE	NE	P	5	15	G	W-P	20	Se	Flowers are showy. Leaves are succulent and forming rosette. A good ground covering on rocky places
123	*Salvia cadmica* Boiss.	7195	Dedegül Mountains, Kızıldağ National Park (in black pine forests)	Blackpine forest and clearings	1500-1700	Lamiaceae	3	H	Uk	E	NE	P	10	35	G	W	50	Se	
		7327	Sultan Mountains, and between Akşehir (Konya) and Yalvaç	Rocky steppe	2200-2700														
		8448	Between Konya and Akşehir roads	Steppe	1400														

124	*Salvia tomentosa* Miller	8357	Sarıçiçek yaylası (Isparta)	Clearings in forest	1200	Lamiaceae	2	H	Med.	NE	E	P	15	40	Gr	B	60	Se	Rapidly growing, it looks showy, a good ground cover plants. Leafs are large form.
125	*Saponaria chlorifolia Kunza.*	7273	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Quercus macquis	1800-2300	Caryophyllaceae	2	T	Uk	E	NE	A	10	30	Gr	P	20	Se	
		7660	Barla Mountain (Isparta)	Rocky places	1800-2000														
126	*Saponaria officinalis* L.	7936	Between Yeşilova(Burdur) and Denizli roads (Saldabeli site)	Rocky and slopy places	1150	Caryophyllaceae	3	H	Uk	NE	NE	P	20	40	Gr	Pu	20-60	Se-R	Flowers are showy.
			Kirazlıdere locality (Isparta)																
127	*Saponaria pinetorum* Hedge	7061	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Clearing areas	1550-1600	Caryophyllaceae	2	H	Med.	E	NE	P	20	40	Gr	Pu	20-60	Se	
128	*Saponaria pumilio* Boiss.	7837	Aksu-Pınargözü picnic areas (Isparta)	Alpinic steppe	2200-2400	Caryophyllaceae	4	Ch	Uk	NE	E	P	5	20	Gr	Pu-R	40-60	Se	Plants are mass formed. A good ground cover on alpinic meadows places
129	*Sarcopoterium spinosum* (L.) Spach.	9045	Termosus Natural Park (Antalya)	Macquis	800	Rosaceae	2	Ch	Med.	NE	E	P	15	40	G	W	60	Se	Spiny and cussion formed
130	*Scutellaria orientalis* L.	8333-	Hacıaliler village (Devebeli site)	Clearing areas	1400	Lamiaceae	2	Ch	Ir.-Tur.	NE	E	P	10	30	Gr	Y	30-60	Se	A good, showy ground cover plants.
		9197	Tota mountain (Sütçüler)	Rocky places	1800														
		8456	Between Konya and Akşehir roads	Steppe	1400														
131	*Sedum acre* L.		Periphery of Gölcük lake and old nursery garden locality (Isparta)	Rocky places in forest areas	1200	Crassulaceae	2	Ch	Uk	NE	NE	P	5	12	G	W	20	Se-R	Succulent plants. Resistant to drought.

132	*Sedum album* L.		Periphery of Gölcük Lake and Pürenova locality (Isparta)	Rocky places in forest areas	1550-1600	Crassulaceae	2	Ch	Uk	NE	NE	P	5	12	G	W	20	Se-R	Succulent plants. Resistant to drought.
133	*Sedum hispanicum* L. var. *planifolium* Chamberlain	7672	Aksu and Dedegül mountaisn, top of Kapiz stream (Isparta)	Rocky places	2000	Crassulaceae	5	Ch	Ir.-Tur.	E	NE	P	5	15	G	W	20	Se-S	Succulent plants. Resistant to drought.
134	*Sedum lydium* Boiss.	7331	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Rocky steppe	2200-2700	Crassulaceae	2	Ch	Med.	E	NE	P	5	15	G	W-R	20	Se	Succulent plants. Resistant to drought.
135	*Silene ruscifolia* (Hub.- Mor. & Reese) Hub.-Mor.	6985	Bahtiyar village (Yalvaç- Isparta)	Steppe	800	Caryophyllaceae	5	Ch	Ir.-Tur.	E	NE	P	5	15	G	W	20-60	Se	A good ground cover plants on volcanic and slopy places.
136	*Silene spergulifolia* (Desf.) Bieb.	6748	Sultan Mountains - Between Akşehir (Konya) and Yalvaç (Isparta)	Eroded slopy areas	1500-1800	Caryophyllaceae	1	Ch	Ir.-Tur.	NE	E	P	5	20	Gr	C-G	20-60	Se	
137	*Silene cappodocica* Boiss. & Heldr.	7700	Beween Konya and Akseki road (Alacabel locality)	Rocky places	1550	Caryophyllaceae	1	Ch	Ir.-Tur.	NE	E	P	5	20	Gr	C-G	20-60	Se	
138	*Stachys lavandulifolia* Vahl var. *lavandulifolia*	8319	Between Isparta and Kesme road	Alpinic steppe	1900	Lamiaceae	2	H	Ir.-Tur.	NE	NE	P	10	30	Gr	B-Pu	20-60	Se	
139	*Telephium imperati* L. subsp. *orientale* (Boiss.) Nyman	9158	Karatepe and Sidre hills (Isparta)	Clearings in forest	1300-1500	Caryophyllaceae	2	H	Uk	NE	NE	P	10	30	G	W	30-40	Se	A good ground cover plant and rapidly growing, very much seed.
		7963	Between Konya and Beyşehir road (20 km from Ilgın)	Steppe and slopy places	1200		2												
140	*Teucrium montanum* L.	7098	Top places of Dedegül Mountains and periphery of Karagöl	Alpinic steppe	2400-2800	Lamiaceae	2	H	Uk	NE	E	P	5	10	G	Y	20-40	Se	Horizontal growing, semishrub
		7190	Dedegül Mountains, Kızıldağ National Park and Yaka	Blackpine forest and clearings	1500-1700														
		7340	Aksu-Pınargözü picnic areas (Isparta)	Rocky places	2600-2800														

141	*Teucrium chamaedrys* L.	9176	Karatepe and Sidre hills (Isparta)	Blackpine forest and clearings	1200	Lamiaceae	2	H	Med.	E	NE	P	5	50	G	O	20-40	Se-R	Having smell, showy and decorative semishrub ground cover plant. Flowering is contiuning long period. To resistant of the drought and mowing
		8375	Sarıçiçek plateau (Isparta)	Blackpine forest and clearings	1200-1400														
		8998	Kirazlıdere locality (Isparta)	Clearings in forest	1000-1200														
142	*Teucrium polium* L.	8346	Barla Mountain (Isparta)	Blackpine forest and clearings	1500	Lamiaceae	1	H	Uk	NE	E	P	10	40	Gr	W	20-40	Se-	Having smell, showy and decorative herbaceous ground cover plant.
		8929	Kovada çayı Arboretum Locality (Eğirdir)	Blackpine forest and clearings	250														
143	*Teucrium scordium* L. subsp. *scordioides* (Schreber) Maire & Petitmengin	9132	Between Afyon and Sandıklı road (Paşaköy and Şerban town)	Clearings in forest	1200	Lamiaceae	2	H	Euro.-Sib.	NE	E	P	5	50	Gr	B-P-Pu	20-40	Se-S	Having smell, showy and decorative herbaceous ground cover plant.
144	*Thlaspi papillosum* Boiss.	7766	Tota Plateau (Sütçüler) and Soğuksu forest recreation areas (Isparta)	Rocky places	2100-2400	Brassicaceae	5	H	Uk	E	E	P	4	10	G	W-Y	30-50	Se	Having smell, showy and decorative herbaceous ground cover plant.
145	*Thymus samius* Ronniger & Rech. fil.	7796	Between Pazar and Ayvalıpınar village road (Aksu)	Blackpine forest and clearings	1300-1500	Lamiaceae	4	Ch	Med.	E	E	P	5	15	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
		8359-	Sarıçiçek plateau (Isparta)	Blackpine forest and clearings	1400-1800 -														
		8449-	Between Konya and Beyşehir road	Steppe	1400														
		9004-	Kirazlıdere locality (Isparta)	Edges of forests -	1300-														

146	*Thymus zygioides* Griseb. var. *lycaonicus* (Celak) Ronniger	8348	Sarıçiçek plateau (Isparta)	Edges of stream	1350	Lamiaceae	4	Ch	Med.	E	E	P	5	15	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
147	*Thymus zygioides* Griseb. var. *zygioides*	7193	Dedegül Mountain, Kızıldağ National Park and Yaka (Isparta)	Blackpine forest and clearing	1500-1700	Lamiaceae	2	Ch	Med.	NE	E	P	5	10	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
148	*Thymus cilicicus* Boiss. & Bal.	7676	Aksu and Dedegül Mountain, top of Kapiz stream	Rocky places	2000	Lamiaceae	4	Ch	Med.	E	E	P	5	15	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
149	*Thymus leucostomus* Hausskn & Velen subsp. *leucostomus*	8322	Hacıaliler village (Isparta)	Cultivated lands-	1350	Lamiaceae	3	Ch	Ir.-Tur.	E	E	P	5	15	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
		8353	Sarıçiçek plateau (Isparta)	Edges of stream	1350														
150	*Thymus longicaulis* C. Presl subsp. *longicaulis* var. *subisophyllus* (Borbas) Jalas	8446	Between Konya and Akşehir road (on Isparta road)	Steppe	1400	Lamiaceae	3	Ch	Uk	E	E	P	5	15	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
151	*Thymus sibthorpii* Bentham	7143	Top places of Dedegül Mountains and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Lamiaceae	2	Ch	Euro.-Sib.	NE	E	P	10	40	G	Pu	40-60	Se	Having smell, showy and decorative herbaceous ground cover plant.
152	*Tussilago farfara* L.		Dedegül Mountains (Isparta)	Eroded slopy areas	2000	Asteraceae	2	G	Euro.-Sib.	NE	E	P	5	15	Gr	Y	20-40	Se-R	Leaves are large form. Rapid growing. A good ground cover plant at shadows places.
153	*Trifolium affine* C. Presl.	7243	-Isparta Ayazma üzeri. Sidre mevkii,	Clearings in macquis	1200-1400	Fabaceae	3	T	Uk	NE	NE	A	5	30	G	W-P	10	Se	

			Periphery of Gölcük Lake and Halıkent (Isparta)	Clearings in macquis	1200-1400		2											
154	*Trifolium barbulatum* (Freyn. & Sint.) Zoh.		Periphery of Gölcük Lake (Isparta)	Cultivated lands	1080	Fabaceae	4	T	Uk	E	NE	A	20	60	G	Y	10	Se	
155	*Trifolium campestre* Schreb.	7244	Ayazma and Sidre hill locality (Isparta)	Clearings in macquis	1200-1400	Fabaceae	2	T	Uk	NE	NE	A	10	30	G	Pu	10	Se	
			Periphery of Gölcük Lake and Halıkent (Isparta)	Clearings in macquis	1200-1400													
156	*Trifolium hirtum* All.		Periphery of Gölcük Lake and Halıkent (Isparta)	Clearings in macquis	1400	Fabaceae	2	T	Med.	NE	NE	A	10	30	G	Pu	10	Se	
157	*Trifolium repens* L.		Atabey cultivated fields (Isparta)	Moistly cultivated areas	950-1200	Fabaceae	2	Ch	Uk	NE	E	P	10	30	G	Va	20-70	Se-S	Rapidly growing and a good ground cover plant.
			Dedegül Mountains (Isparta)	Edges of stream	1200-1800													
158	*Trifolium hybridum* L. var. *anatolicum* (Boiss.) Boiss.		Dedegül Mountains (Isparta)	Meadows	1500-1800	Fabaceae	3	Ch	Uk	NE	E	P	5	50	G	Va	20-70	Se-	Rapidly growing and a good ground cover plant.
159	*Trifolium fragiferum* L.		Sultan Mountains (Isparta)	volcanica moistly slopy areas	1350	Fabaceae	3	Ch	Uk	NE	E	P	5	30	G	Va	30-40	Se-R	Rapidly growing and a good ground cover plants. But it is toxic plant
160	*Trifolium pratense* L. var. *pratense*		Aksu-Pınargözü picnic areas (Isparta)	Meadows	1500-1700	Fabaceae	3	Ch	Uk	NE	E	P	5	40	G	Va	30-40	Se	Rapidly growing and a good ground cover plant.
161	*Trigonilla cretica* (L.) Boiss.	6660	Upwards of Military (Burdur)	Clearings in macquis	800	Fabaceae	5	Ch	Med.	E	NE	P	10	25	G	Y	20	Se	A good ground cover plant on eroded places.
162	*Tribolus terrestris* L.		in the Campus of S.D.University (Isparta)	Cultivated lands	1000	Zygophyllaceae	1	T	Uk	NE	NE	A	15	80	G	Y	80	Se	Rapidly growing. Fruits are spiny.

163	*Veronica bornmuellerii* Hausskn.		Periphery of Gölcük Lake (Isparta)	Edges of stream	1185	Scrophulariaceae	2	Ch	Ir.-Tur.	NE	NE	P	10	25	Gr	B	20-40	Se	A good ground cover plant on meadows places.
164	*Veronica campylopoda* Boiss.		Periphery of Gölcük Lake (Isparta)	Edges of stream	1185	Scrophulariaceae	3	T	Ir.-Tur.	NE	NE	A	5	20	Gr	B	20-40	Se	
165	*Veronica jacquinii* Baumg.	7085	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	1700-1900	Scrophulariaceae	3	Ch	Euro.-Sib.	NE	NE	P	15	50	Gr	B	20-40	Se	A good ground cover plant on meadows places.
		6948	Dedegül Mountain, Kızıldağ Natural Park and Yaka (Isparta)	Blackpine forest and clearings	1500														
166	*Veronica peduncularis* Bieb.	6941	Dedegül Mountains, Kızıldağ National Park and Yaka (Isparta)	Blackpine forest and clearings	1500	Scrophulariaceae	5	Ch	Euro.-Sib.	NE	NE	P	6	30	Gr	B	20-40	Se-R	A good ground cover plant
167	*Veronica serpyllifolia* L.	7121	Top places of Dedegül Mountain and periphery of Karagöl (Isparta)	Alpinic steppe	2400-2800	Scrophulariaceae	2	Ch	Uk	NE	NE	P	3	10	Gr	Va	20-50	Se-R	A good ground cover plant on meadows places.
168	*Vicia cracca* L. subsp. *cracca*		Periphery of Gölcük Lake and Pilav hill (Isparta)	Moistly meadows	1415	Fabaceae	2	Ch	Euro.-Sib.	NE	NE	P	40	120	G	B	100	Se	Climbing and a good ground cover plant.
169	*Vicia freyniana* Bornm.	7215	Periphery of Gölcük lake and old nursery garden locality (Isparta)	Plain areas	1200 -1410	Fabaceae	2	Ch	Med.	E	E	P	40	120	G	B	100	Se	Climbing and a good ground cover plant.
		7850	Between Isparta and Şarkikaraağaç road (Fele village locality)	Cultivated lands	1300		2												
		7257	Periphery of Gölcük Lake and Pürenova locality	Alpinic steppe	1600-1800		4												
170	*Vicia sativa* L. subsp. *nigra* (L.) Ehrh.	7055	Periphery of Gölcük Lake and Pürenova locality (Isparta)	Blackpine forest and clearings	1550-1600	Fabaceae	2	Ch	Uk	NE	NE	P	20	80	D G	Va	100	Se	Climbing and a good ground cover plant.

171	*Vincetoxicum canascens* (Willd) Derme subsp. *pedunculata* Browicz	8912	Kovada çayı Arboretum Locality (Sütçüler)	Blackpine forest and clearings	250	Asclepiadaceae	3	Ch	Med.	E	E	P	20	80	G	Y	70-100	Se	Horizontal growing. A good ground cover plant. But it is toxic plant.
		6759	Periphery of Gölcük Lake (Isparta)	Blackpine forest and clearings	1000														
172	*Viola gracilis* Sibth. & Sm.	7141	Top places of Dedegül Mountains and periphery of Karagöl	Alpinic steppe	2400-2800	Violaceae	4	Ch	Uk	NE	E	P	5	25	G	Y-Pu	20	Se	A good ground cover plant
173	*Viola odorata* L.	8402	Aksu-Pınargözü picnic areas (Yaka stream) (Isparta)	Rocky places	2400-2800	Violaceae	4	Ch	Uk	NE	E	P	3	12	G	Pu	30	Se-S	A good ground cover herboceous plant for shady places
174	*Vinca herbacea* Waldst. & Kit		Dedegül Mountains	Pınargözü Locality	1600	Apocynaceae	4	Ch	Uk	NE	E	P	10	40	G	B	20-40	Se-S-R	Horizontal growing. A good ground cover plant
175	*Ziziphora clinopodioides* Lam.	9131	Between Afyon and Sandıklı road (Paşaköy-Şerban town)	Clearings in forest	1200	Lamiaceae	2	Ch	Uk	NE	E	P	5	30	G	B-Pu	20-40	Se	Having smell and a good ground cover plant.