

Flora of Kumalar Mountain (Afyon)*

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Abstract: This study was carried out to determine the flora of Kumalar Mountain (Afyon) which is located in the transition zone between the Aegean and Central Anatolia. After the evaluation of 2204 plant specimens collected from the research area between 1996 and 2001, 89 families, 388 genera and 898 taxa were identified. Thirty-two taxa are cultivated and the rest are native. The number of endemic taxa is 122 (14.1%). The phytogeographic elements represented in the study area are as follows: Irano-Turanian 133 (15.4%), Mediterranean 99 (11.4%) and Euro-Siberian 73 (8.4%). The remaining 561 (64.8%) taxa belong to a few phytogeographic regions or are widespread. The life forms of the taxa are determined according to Raunkiaer. Twenty-eight taxa show variations not reported in the Flora of Turkey. These variations are presented in the appendix.

Key Words: Flora, Kumalar Mountain, Afyon, Turkey

Kumalar Dağı (Afyon) Florası

Özet: Bu çalışma Ege-İç Anadolu Bölgesi geçiş zonunda bulunan Kumalar Dağı (Afyon) florasını tespit etmek için yapılmıştır. Araştırma alanından 1996-2001 yılları arasında toplanan 2204 bitki örneğinin değerlendirilmesi sonucu 89 familya, 388 cins ve bu cinslere ait 898 tür ve tür altı seviyede takson belirlenmiştir. 32 takson kültür, diğerleri ise doğaldır. Endemik tür sayısı 122 (% 14.1)'dir. Araştırma alanında fitocoğrafik elementlerin dağılımı şöyledir: İran-Turan 133 (% 15.4), Akdeniz 99 (% 11.4) ve Avrupa-Sibirya 73 (% 8.4). Geri kalan 561 (% 64.8) takson geniş yayılışlı veya birkaç fitocoğrafik bölgeye aittir. Taksonların hayat formları Raunkiaer'in sistemine göre belirlenmiştir. 28 takson Türkiye Florasında belirtilmeyen varyasyonlar gösterir. Bu varyasyonlar floristik liste içinde sunulmuştur.

Anahtar Sözcükler: Flora, Kumalar Dağı, Afyon, Türkiye

Introduction

Kumalar mountain is geographically located in the transitional zone of the Aegean-Central Anatolia regions within Afyon province. The study area is located between lat 38°7'N and 38°35'N, and 30°10'E and 30°41'E. The study area, which is 60 km long and 10-40 km wide, lies in the direction of Afyon, Sandıklı and Dinar, and divides Afyon territory into two large districts from north to south. The study area is surrounded in the west by Sandıklı plain, in the south by Dombayova, Gülovası and Çamurova, and in the east by Şuhut plain (Figure 1). According to Davis (1965), the area is in the transition zone of the Mediterranean and Irano-Turanian phytogeographic regions. According to the grid square system used in the Flora of Turkey, the study area is

located in square B3. The altitude of the area is 1100 m at Şuhut, 1070 m at Sandıklı and 2247 m at the summit of Kilimatan hill.

The geological structure of the study area is formed by volcanic, sedimentary and metamorphic rocks. The metamorphic rocks have volcanic and sedimentary origins. The geological structure of the area is represented by four formations: Akdağ limestone formation, Eosen Yeniköy formation, Oligosen conglomerate formation and Sandıklı neocene formation (Öngür, 1971; Metin, 1987).

There are six large soil groups in the study area: colluvial soils (in the east, west and south slopes of Kumalar mountain, and especially in the agricultural areas of Sandıklı and Şuhut plains), brown forest soils (around

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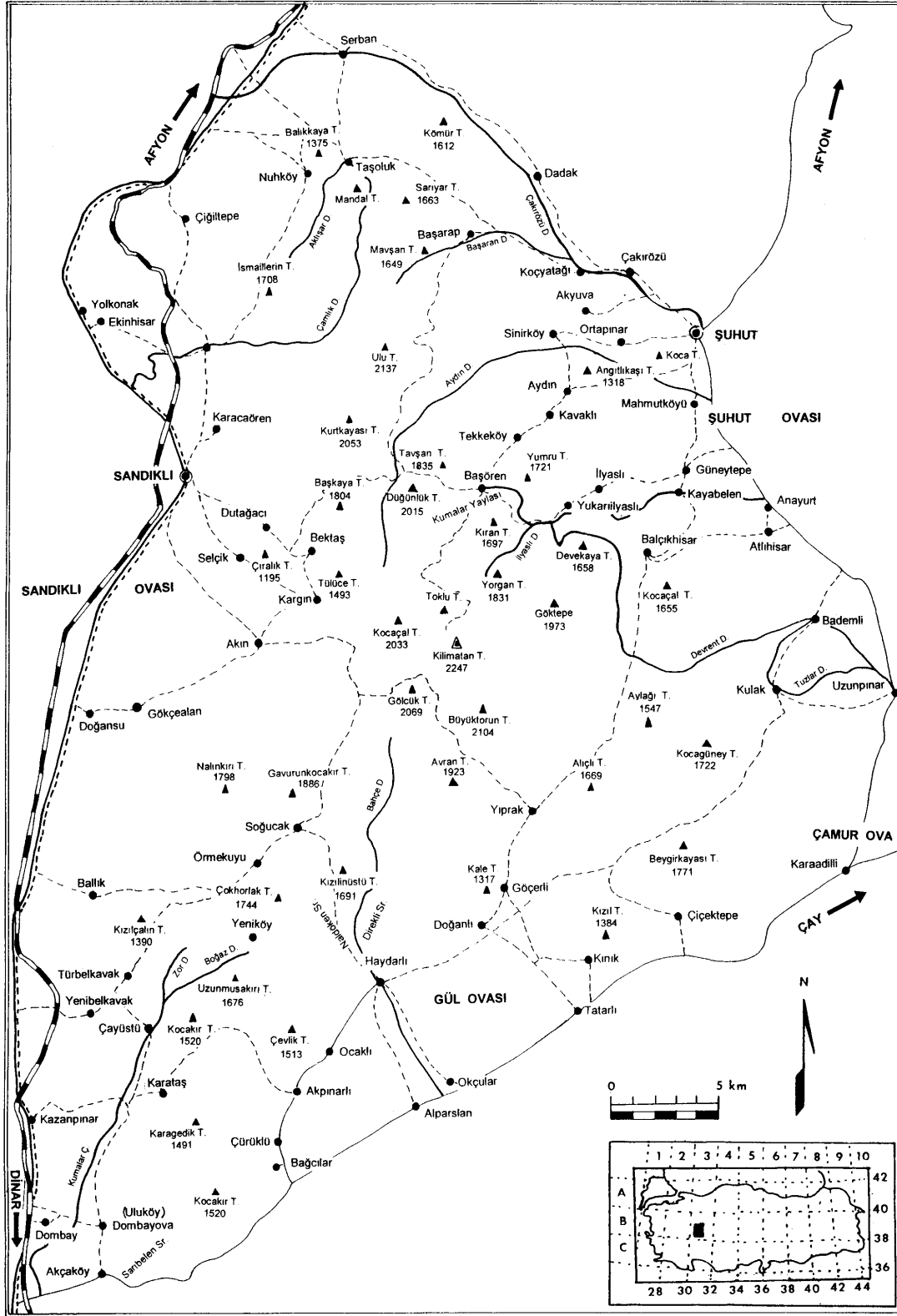


Figure 1. Geographic map of the study area

Taşoluk, Balçıkhisar, Ballık and Soğucak villages), non-calcareous brown forest soils (around Mahmutköy, Güneytepe and Kayabelen villages), alluvial soils (around Gülovası, Dombayova, Serban, Çakırözü, Ortapınar and Aydın villages), brown soils (around Sandıklı and Karacaören villages in a small area), red-brown soils (locally on Kömür and Mavşan hills), and red-brown Mediterranean soils (between Dadak village and the town of Taşoluk in a small area) (TKB, 1972; KHGM, 1994).

The study area is influenced by a Mediterranean climate. The average annual temperature is 11.1 °C in Afyon, 17.4 °C in Şuhut and 19.1 °C in Dinar. The total rainfall per year is 434.4 mm in Afyon, 360.6 mm in Şuhut and 461.2 mm in Dinar (DMİ, 1990). The rainfall regime is "East Mediterranean Rain Regime Type II" in Afyon, and "East Mediterranean Rain Regime Type I" in Şuhut and Dinar. According to Emberger's Mediterranean bioclimate layers classification, Afyon and Şuhut are "semi-arid, very cold", and Dinar is "semi-arid, cold in winter" (Akman, 1990). The climate diagrams were drawn using Walter's (1958) method (Figures 2 and 3). For a better understanding of the climate of the area a climate diagram is given for Kilimatan hill using extrapolation accounts (Figure 4). Kilimatan hill, which is

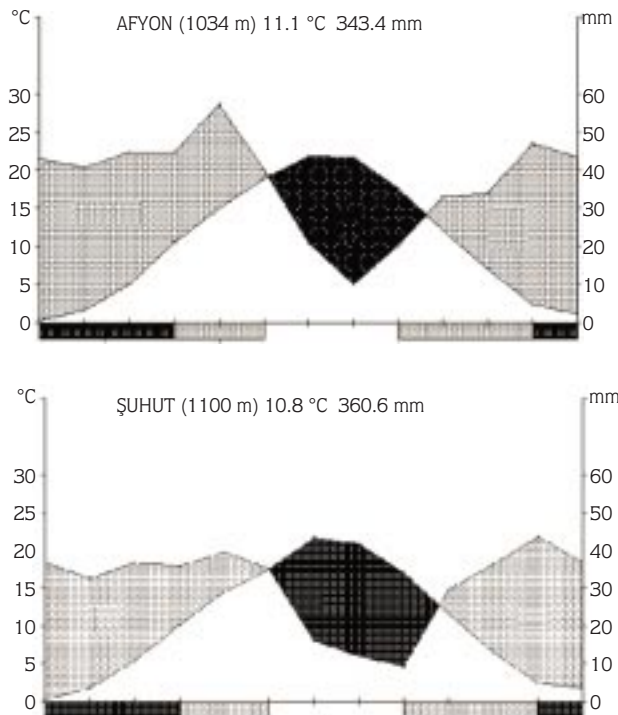


Figure 2. Climate diagrams of Afyon and Şuhut.

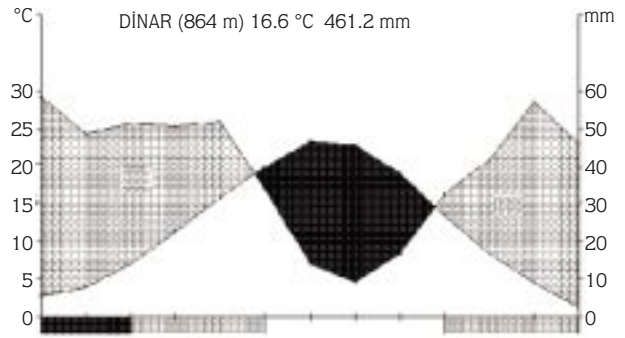


Figure 3. Climate diagram of Dinar.

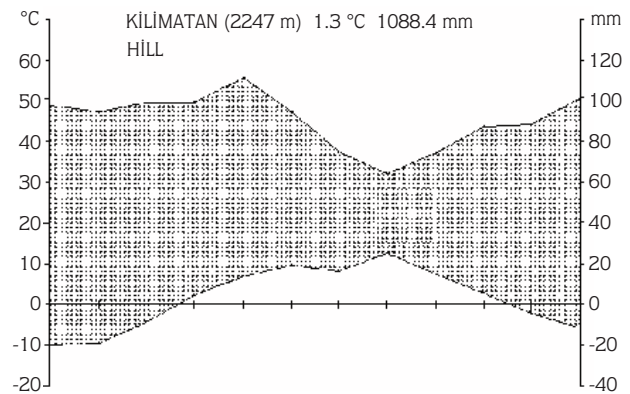


Figure 4. Climate diagram of Kilimatan hill.

higher than the other stations, has extreme rainfall and temperature averages.

Four different vegetation types occur in the study area: forest, steppe, rock and swamp-pasture. The general character of the area is forest-steppe transition vegetation. The plants of a vast part of the mountain chain were destroyed, but the 10-20% of the area are covered by *Quercus pubescens* Willd., *Pinus nigra* J.F. Arnold subsp. *nigra*, *Quercus cerris* L. var. *cerris* in a scattered form, *Quercus vulcanica* [Boiss. & Heldr. ex] Kotschy in and around Şuhut and in the southern part of the area very few *Pinus brutia* Ten. On the other hand, in the area, commonly seen *Cistus laurifolius* L. bushes and rarely seen *Juniperus foetidissima* Willd. remains show the regressive development of *Pinus nigra* subsp. *nigra* in Central Anatolia. The result of this retransformation, steppe vegetation's characterizer *Astragalus microcephalus* Willd., where *Cistus laurifolius* L. was destructured, and a regional endemic *Astragalus flavescens* Boiss. form the common steppe associations of the area.

Steppe vegetation is the most commonly found type in the area. The most dominant species of this vegetation type are *Verbascum phrygium* Bornm., *Astragalus flavescens* Boiss., *Astragalus tmoleus* Boiss., *Festuca valesiaca* Schleich. ex Gaudin, *Verbascum krauseanum* Murb., *Festuca paphlagonica* (St.-Yves) Markgr.-Dann. subsp. *paphlagonica*, *Festuca cyllenica* Boiss. & Heldr. subsp. *uluana* Markgr.-Dann. and *Daphne oleoides* Schreb. subsp. *oleoides* at altitudes between 1200 and 2200 m.

Forest vegetation is found between 1100 and 1600 m, and is represented by *Quercus cerris* L. var. *cerris*, *Q. pubescens* Willd., *Q. vulcanica* [Boiss. & Heldr. ex] Kotschy, *Cistus laurifolius* L., *Pinus nigra* subsp. *nigra*, *Juniperus oxycedrus* L. subsp. *oxycedrus* and *J. foetidissima* Willd.

Rocky vegetation occurs between 1500 and 2000 m. The most dominant species of rocky vegetation include *Cystopteris fragilis* (L.) Bernh., *Dryopteris pallida* (Bory) Fomin subsp. *pallida*, *Putoria calabrica* (L.f.) DC., *Micromeria cristata* (Hampe) Griseb. subsp. *phrygia* and *Arabis caucasica* Willd. subsp. *brevifolia* (DC.) Cullen.

Swamp and pasture vegetation is seen in irrigated fields and the Akören and Karamık swamps at altitudes between 1000 and 1200 m. Some dominant species of swamp and pasture vegetations are *Carex distans* L., *Scirpoides holoschoenus* (L.) Soják, *Butomus umbellatus* L., *Typha domingensis* Pers., *Juncus inflexus* L. and *Polygonum amphibium* L.

Materials and Methods

This paper is based on a Ph D thesis. 2204 specimens were collected between 1996 and 2001. They were dried by means of well-known herbarium methods. The specimens were identified at the family, generic and species level according to the Flora of Turkey (Davis, 1965-1985; Davis et al., 1988; Güner et al., 2000). In some cases, other references (Aytaç, 1997; Boissier, 1867-1888; Duman et al., 1995; Kaynak et al., 1996; Komarov, 1949; Townsend & Guest, 1966-1985; Tutin et al., 1964-1980; Rechinger, 1965-1977; Zohary, 1966-1986) were used for identification.

A list of the flora is given in the appendix; cultivated plants are listed after natural plants. The list is set out according to the order in the Flora of Turkey. In the

appendix the following details are stated: family, species, author(s), locality, habitat, altitude, collection date, collector and number. Also, the phytogeographic regions are given together with rare, threatened and endemic plants and IUCN threat categories; life forms (Ekim et al., 2000; IUCN, 2001). The findings were compared with the results of other studies carried out in neighbouring areas in terms of phytogeographic elements, as well as the number of families, species and endemism (Çirpıcı, 1989; Ekim, 1978; Ekim et al., 1985; Gemici, 1990, 1991; Görk, 1988; Ocakverdi, 1984; Yayıntaş, 1985). Agricultural plants were not included in the rate of phytogeographic region elements and endemism. To avoid repetition, "B3 Afyon: Kumalar Mountain" is not used each time. The names of authors were arranged according to the "Authors of Plant Names" (Brummitt & Powell, 1992). The specimens are kept in Gazi Herbarium (GAZI).

The abbreviations used in the text and in the floristic list are as follows: (Ir.-Tur.)- Irano-Turanian element, (Medit.)- Mediterranean element, (E. Medit.)- East Mediterranean element, (Euro-Sib.)- Euro-Siberian element, (Ph)- Phanerophyte, (Ch)- Chamaephyte, (H)- Hemicryptophyte, (Th)- Therophyte, (G)- Geophyte, and (Hd)- Hydrophyte. The IUCN categories are as follows: (EN)- Endangered, (VU)- Vulnerable, (LC)- Least Concern, and (NT)- Near Threatened.

Results and Discussion

This study was carried out with 2204 plant specimens collected from the research area between 1996 and 2001. As a result of the identification of the plant specimens, 89 families, 388 genera and 898 taxa (subsp. and var. included) were determined from the area. Seven of the 898 taxa are from the *Pteridophyta*; and 891 belong to the *Spermatophyta*. Eight taxa are *Gymnospermae* and 883 taxa are in the *Angiospermae*. 747 taxa belong to the *Dicotyledones* and 136 belong to the *Monocotyledones*.

The taxa may be categorised according to phytogeographic region as follows: Irano-Turanian 133 (15.4%), Mediterranean 99 (11.4%) and Euro-Siberian 73 (8.4%). The remaining 561 (64.8%) taxa belong to a few phytogeographic regions or are widespread (Table 1). This shows that the area is located in the transition zone of Irano-Turanian and Mediterranean

Table 1. A comparison of the phytogeographic elements abbreviations below the table).

Research area	1	2	3	4	5	6	7	8
Total species	898	667	1058	867	516	562	624	461
Irano-Turanian elements %	15.4	8.1	10.4	10.7	4.9	9.9	7.9	13.0
Mediterranean elements %	11.4	10.9	18.3	13.3	16.5	29.1	4.7	12.5
Euro-Siberian elements %	8.4	9.1	7.6	13.1	7.7	12.8	8.4	3.2
Multiregional or unknown phytogeographic region %	64.8	71.9	63.7	62.9	70.7	48.2	79.0	71.1

Abbreviations:

1. Flora of Kumalar Mountain (Afyon)
2. Afyon Başkomutan Tarihi Milli Parkı Florası (Ekim et al., 1985)
3. Akdağ ve Çevresinin Florası (Gemici, 1990, 1991)
4. Murat Dağı (Kütahya-Uşak)'nın Florası (Çirpıcı, 1989)
5. Simav Dağı Florası (Yayıntaş, 1985)
6. Eğrigöz Dağı (Emet) Florası (Görk, 1988)
7. Orta Anadolu (Eskişehir) Türkmen Dağının Florası (Ekim, 1978)
8. Sultan Dağları-Doğanhisar Bölgesinin (Konya) Florası (Ocakverdi, 1984)

phytogeographic regions; however, the Irano-Turanian phytogeographic region has more influence in the area. The flora elements are not homogenously separated. Mediterranean elements are in the south and south-west; Irano-Turanian and Euro-Siberian elements are in the northern and eastern areas, which is closed to the south. While Irano-Turanian and Mediterranean elements are located in open areas and steppe, Euro-Siberian elements are located in forest areas and pastures at high altitude, water and streamsides and damp microclimate areas in enclave forms. The distribution of the species in the phytogeographic regions is compared with taxa of neighbouring areas in Table 1.

The largest families according to their species number in the research area are as follows: *Asteraceae* (104

taxa), *Poaceae* (89 taxa), *Fabaceae* (77 taxa), *Lamiaceae* (71 taxa), *Brassicaceae* (50 taxa), *Rosaceae* (42 taxa), *Caryophyllaceae* (42 taxa), *Scrophulariaceae* (40 taxa), *Apiaceae* (36 taxa) and *Boraginaceae* (33 taxa) (Table 2). As seen in Table 2, the first five families according to the number of species are very similar with some small differences. *Asteraceae* is the largest family in the study area because the family is the largest family in the Flora of Turkey, the ecological tolerance of the members of the family are common and their seeds spread easily. *Poaceae* is the second most common family in the study area and many of its species are widespread in agricultural areas and within the surroundings. *Fabaceae* is the third most common family in the area. Many species of this family are cultivated in agricultural areas and some taxa are

Table 2. Comparison of the large families in the research area and in neighbouring areas.

Research area	1	2	3	4	5	6	7	8
Total species	898	667	1058	867	516	562	624	461
<i>Asteraceae</i>	104	89	136	113	60	59	76	55
<i>Poaceae</i>	89	47	62	27	30	29	43	45
<i>Fabaceae</i>	77	81	105	65	69	69	70	48
<i>Lamiaceae</i>	71	45	61	52	34	33	45	35
<i>Brassicaceae</i>	50	29	67	60	31	31	31	24
<i>Rosaceae</i>	42	30	38	42	15	28	36	14
<i>Caryophyllaceae</i>	42	41	52	55	25	30	27	27
<i>Scrophulariaceae</i>	40	38	42	42	23	20	21	18
<i>Apiaceae</i>	36	26	44	34	13	20	33	17
<i>Boraginaceae</i>	33	20	24	27	25	22	12	11

widespread in some habitats such as steppe, pastures and forest openings.

It is difficult to draw firm conclusions from Table 3. Generally, the largest genera of the study area, *Astragalus* L., *Silene* L., *Salvia* L., *Veronica* L. and *Ranunculus* L. are also present at the top of the lists in other areas. *Astragalus* is the largest genus in this study area because the area is in the transition zone of the Irano-Turanian and Mediterranean phytogeographic regions. Steppe vegetation is common in the area, and *Astragalus* is the largest genus in the Flora of Turkey and can resist grazing. *Silene* is the second most common, because it has a large living area and enjoys the steppe, forest and wet habitats that exist in the area (Table 3).

The taxa can also be classified according to their life form. All the taxa classified according to the Raunkiaer life form spectrum are given in Table 4 (Akman et al., 2001). Hemicryptophytes are the commonest in the study area followed by therophytes, geophytes, phanerophytes, chamaephytes, vascular parasites and hydrophytes. Hemicryptophytes have a large living area

worldwide (Çetık, 1973). In floristic research performed in Turkey, hemicryptophytes are commonly found. Therefore, finding hemicryptophytes to be commonly during our research was expected. Therophytes, which are common in arid and semi-arid areas, were the second most common in the study area because of the arid summers in the area.

In this research, 898 taxa from the area were identified. Thirty-two are cultivated and 866 natural plants. One-hundred-twenty two (14.1%) of these 866 natural plants are endemic (Table 5). Forty-seven endemic taxa are Irano-Turanian elements, 24 taxa Mediterranean elements and one taxon element from the Euro-Siberian phytogeographic region. The phytogeographic region of 50 endemic taxa are unknown. According to IUCN threat categories, the number of endemic and rare non-endemic plants in the study area are as follows: One taxon is endangered (EN), six taxa are vulnerable (VU), 102 taxa are of least concern (LC), and 13 taxa are in the near threatened (NT) category. There are three rare non-endemic taxa, in the

Table 3. The number of species in the large genera in the study area and in neighbouring areas.

Research area	1	2	3	4	5	6	7	8
<i>Astragalus</i>	17	11	13	15	8	11	11	10
<i>Silene</i>	15	21	19	12	6	10	15	11
<i>Salvia</i>	13	6	8	9	7	5	5	6
<i>Veronica</i>	13	11	15	14	10	7	7	6
<i>Ranunculus</i>	11	11	16	14	10	7		5
<i>Rumex</i>	10	2	6	10	5		11	
<i>Trifolium</i>	10	15	22	12	14	12		8
<i>Bromus</i>	9	7	8	4	4		15	5
<i>Euphorbia</i>	9	7	13	7		5		6
<i>Verbascum</i>	9	12	10	9	1	-	2	4

Table 4. Life forms

Life Form	Number of Species	(%)
Hemicryptophyte (H)	371	41.3
Therophyte (Th)	241	26.8
Geophyte (G)	107	11.9
Phanerophyte (Ph)	84	9.4
Chamaephyte (Ch)	75	8.4
Vascular Parasite (Vp)	11	1.2
Hydrophyte (Hd)	9	1.0
Total	898	100.0

Table 5. The rate of endemism in the study area and in neighbouring areas.

Research area	1	2	3	4	5	6	7	8
Endemic species	122	101	124	114	48	46	65	81
Endemism (%)	14.1	15.1	11.7	13.1	9.4	8.1	10.0	14.0

vulnerable (VU) category in the area (Ekim et al., 2000; IUCN, 2001).

Twelve regional endemic plants were collected from the research area and nearby. These plants are *Paronychia angorensis* Chaudhri, *Astragalus flavescens* Boiss., *Genista burdurensis* P. Gibbs, *Centaurea reuterana* Boiss. var. *reuterana*, *Convolvulus pulvinatus* Sa'ad, *Verbascum phrygium* Bornm., *Verbascum cheiranthifolium* Boiss. var. *pisidicum* (Boiss. & Heldr.) Murb., *Verbascum armenum* Boiss. & Kotschy var. *occidentale* Hub.-Mor., *Scrophularia floribunda* Boiss. & Bal, *Sideritis akmanii* Z. Aytaç, M. Ekici & A. Dönmez, *Quercus vulcanica* [Boiss. & Heldr. ex] Kotschy and *Festuca cyllenica* Boiss. & Heldr. subsp. *uluana* Markgr.-Dann.

Two species known only from type locality were collected for the first time in the study area. These species are *Minuartia umbellulifera* (Boiss.) McNeill subsp. *salbacica* McNeill and *Astragalus sibthorpianus* Boiss.

Twenty eight taxa show variations in their morphological characters not previously reported in the

literature (Aytaç, 1997; Boissier, 1867-1888; Davis, 1965-1985; Davis et al., 1988; Duman et al., 1995; Güner et al., 2000; Komarov, 1949, Rechinger, 1965-1977; Townsend & Guest, 1966-1985; Tutin et al., 1964-1980; Zohary, 1966-1986). These variations can be explained by geography, soil, climate and hybridisation. The characters will widen the border of the morphological features of the species. These explanations are given in the appendix under the relevant species.

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Appendix

- The Floristic List of Natural Plants
- PTERIDOPHYTA**
- EQUISETACEAE**
- Equisetum ramosissimum* Desf.
Şuhut, between Örmekuyu and Ballık, damp places, 1300 m, 24 ix 2000, E.Akçiçek 3329.
G.
- SINOPTERIDACEAE**
- Cheilanthes persica* (Bory) Kuhn
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3523.
G.
- ASPENIACEAE**
- Asplenium onopteris* L.
16 km from Sandıklı to Şuhut, volcanic rocks, 1650 m, 23 ix 2000, E.Akçiçek 3257.
G.
- A. ruta-muraria* L. subsp. *ruta-muraria*
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3539.
G.
- A. ceterach* L. subsp. *ceterach*
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3522.
G.
- ATHYRIACEAE**
- Cystopteris fragilis* (L.) Bernh.
10 km from Sandıklı to Şuhut, on rocks, 1300 m, 18 vi 2000, E.Akçiçek 2449.
G.
- ASPIDIACEAE**
- Dryopteris pallida* (Bory) Fomin subsp. *pallida*
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3520.
Medit., G.
- SPERMATOPHYTA**
- GYMNOSPERMAE**
- PINACEAE**
- Pinus nigra* J.F.Arnold subsp. *nigra* var. *caramanica* (Loudon) Rehder
Sincanlı, Taşoluk, Balıkkaya hill, 1200 m, 13 vii 1997, E.Akçiçek 1828.
Ph.
- P. brutia* Ten.
Dinar, Akçaköy, forest, 1050 m, 2 iv 2000, E.Akçiçek 2416.
E. Medit., Ph.
- CUPRESSACEAE**
- Juniperus communis* L. subsp. *nana* Syme
Şuhut, Kumalar Yayla, volcanic areas, 1880 m, 23 viii 1998, E.Akçiçek 2283.
Ph.
- J. oxycedrus* L. subsp. *oxycedrus*
Sincanlı, Taşoluk, Balıkkaya hill, oak scrub, 1350 m, 13 vii 1997, E.Akçiçek 1781.
Ph.
- J. foetidissima* Willd.
13 km from Sandıklı to Şuhut, volcanic areas, 1500 m, 18 v 2000, E.Akçiçek 2481/A.
Ph.
- J. excelsa* M.Bieb.
Sandıklı, between Ballık and Örmekuyu, Kızılcıalın hill, rocky slopes, 1250 m, 26 vi 2000, E.Akçiçek 3025.
Ph.
- EPHEDRACEAE**
- Ephedra major* Host
Dinar, between Tatarlı and Alparslan, stony slopes, 1130 m, 26 vii 2000, E.Akçiçek 3176.
Ph.
- ANGIOSPERMAE**
- DICOTYLEDONES**
- RANUNCULACEAE**
- Delphinium peregrinum* L.
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1665.
Th.
- Consolida aconiti* (L.) Lindl.
20 km from Afyon to Şuhut, calcareous rocks, 1250 m, 23 vi 2001, E.Akçiçek 3662.
Endemic-LC, Th.
- C. orientalis* (Gay) Schröd.
Sandıklı, Ballık, roadsides, 1060 m, 4 viii 1997, E.Akçiçek 1841.
Th.
- C. regalis* Gray subsp. *paniculata* (Host.) Soó var. *paniculata*
Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3179.
Th.
- C. hellespontica* (Boiss.) Chater
Sandıklı, between Ballık and Örmekuyu, field borders, 1250 m, 26 vi 2000, E.Akçiçek 2957.
Th.
- Adonis aestivalis* L. subsp. *aestivalis*
Şuhut, Siner village, field borders, 1200 m, 19 v 1997, E.Akçiçek 1700.
Th.
- A. flammula* Jacq.
5 km from Sandıklı to Şuhut, waste ground, 1150 m, 18 v 2000, E.Akçiçek 2458.
Th.
- Ranunculus repens* L.
Şuhut, Başören village, Kocaçal hill, rocky places, 1950 m, 19 v 2000, E.Akçiçek 2549.
G.
- R. constantinopolitanus* (DC.) d' Urv.
Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1678.
G.
- R. damascenus* Boiss. & Gaill.
Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1681.
Ir.-Tur., G.
- R. argyreus* Boiss.
Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2393.
G.
- R. reuterianus* Boiss.
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2500.
Endemic-LC, Medit., G.
- R. pedatus* Waldst. & Kit. subsp. *pedatus*
10 km from Sandıklı to Şuhut, volcanic areas, 1300 m, 18 vi 2000, E.Akçiçek 2440.
G.
- R. heterorrhizus* Boiss. & Bal.
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2585.

Endemic-LC., G.

Corolla length is up to 13 mm on the specimen, but it is described as 8-10 mm in the Flora of Turkey (I:182) (Davis, 1965).

R. isthmicus Boiss. subsp. *stepporum* Davis

Between Sandıklı and Şuhut, Bektaş village, Çıralık hill, volcanic areas, 1200 m, 18 v 2000, E.Akçiçek 2474.

G.

R. arvensis L.

Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1666.

Th.

R. ficaria L. subsp. *ficariiformis* Rouy & Foucaud

Şuhut, damp places, 1100 m, 7 iii 2001, E.Akçiçek 3505.

G.

R. saniculifolius Viv.

Sincanlı, Akören village, marsh, 1020 m, 18 v 2000, E.Akçiçek 2433.

Hd.

Ceratocephalus falcatus (L.) Pers.

Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2394.

Th.

Achenes are 6 mm long on the specimen, but they are described as 7-10 mm in the Flora of Turkey (I:198) (Davis, 1965).

Thalictrum minus L. var. *minus*

Şuhut, Başören village, shady places, 1450 m, 24 vi 2001, E.Akçiçek 3719.

G.

BERBERIDACEAE

Berberis vulgaris L.

Sandıklı, roadsides, 1100 m, 28 x 2000, E.Akçiçek 3426.

Ph.

B. crataegina DC.

Şuhut, Kumalar Yayla, rocky slopes, 1800 m, 6 vi 1996, E.Akçiçek 1578.

Ph.

B. integerrima Bunge

Sandıklı, roadsides, 1100 m, 28 x 2000, E.Akçiçek 3450.

Ph.

PAPAVERACEAE

Glaucium corniculatum (L.) J.O.Rudbeck subsp. *corniculatum*

Between Şuhut and Aydın village, steppe, 1100 m, 20 v 1998, E.Akçiçek 1937.

H.

G. grandiflorum Boiss. & Huet var. *grandiflorum*

Şuhut, Ortapınar village, Kocatepe, 1150 m, 20 v 1998, E.Akçiçek 1909.

Ir.-Tur., H.

G. leiocarpum Boiss.

12 km from Sandıklı to Şuhut, volcanic areas, 1400 m, 25 vii 2000, E.Akçiçek 3096.

H.

G. acutidentatum Hausskn. & Bornm.

Sandıklı, Ballık, roadsides, 1200 m, 26 vi 2000, E.Akçiçek 2969.

Endemic-LC., Ir.-Tur., H.

The calyx is crisped pilose on the specimen, but it is described as glabrous in the Flora of Turkey (I:217) (Davis, 1965).

Papaver apokrinomenon Fedde

Şuhut, Arızlı village, stony slopes, 1120 m, 19 v 2001, E.Akçiçek 3518.

Endemic-LC, H.

P. rhoeas L.

Dinar, Denizli and Afyon crossroads, field borders, 960 m, 16 v 1999, E.Akçiçek 2380.

Th.

P. dubium L.

Sandıklı, Ballık, field borders, 1100 m, 26 vi 2000, E.Akçiçek 2976.

Th.

P. argemone L. subsp. *argemone*

Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1914.

Th.

Hypocoum procumbens L.

Dinar, Denizli and Afyon crossroads, field borders, 960 m, 16 v 1999, E.Akçiçek 2384.

Medit., Th.

H. imberbe Sibth. & Sm.

Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1919.

Th.

H. pendulum L.

Sandıklı, roadsides, 1000 m, 20 v 2000, E.Akçiçek 2670.

Th.

Fumaria officinalis L.

Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2354.

Th.

F. cilicica Hausskn.

Şuhut, Başören village, Kıran hill, volcanic areas, 1600 m, 13 vi 1998, E.Akçiçek 2020.

Th.

F. vaillantii Loisel.

Dinar, between Haydarlı and Yıprak, field margins, 1100 m, 20 v 2000, E.Akçiçek 2622.

Th.

F. asepala Boiss.

Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2085.

Ir.-Tur., Th.

BRASSICACEAE / CRUCIFERAE

Sinapis arvensis L.

20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2243.

Th.

Hirschfeldia incana (L.) Lag.-Foss.

Şuhut, Başören village, Kıran hill, rocky slopes, 1600 m, 13 vi 1998, E.Akçiçek 2014.

H.

Diplotaxis tenuifolia (L.) DC.

Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3199.

H.

Eruca sativa Mill.

Dinar, Denizli and Afyon crossroads, fallow fields, 960 m, 16 v 1999, E.Akçiçek 2351.

Th.

Raphanus raphanistrum L.

Dinar, Tatarlı, roadsides, 1100 m, 26 vii 2000, E.Akçiçek 3191.

Th.

Crambe tataria Sebeók var. *tataria*

Dinar, between Haydarlı and Yıprak, field borders, 1100 m, 20 v 2000, E.Akçiçek 2618.

H.

- Conringia orientalis** (L.) Andrz.
15 km from Afyon to Şuhut, calcareous rocks, 1120 m, 18 v 2001, E.Akçiçek 3622.
Th.
- Lepidium perfoliatum** L.
Between Şuhut and Aydın village, steppe, 1100 m, 20 v 1998, E.Akçiçek 1936.
Th.
- Cardaria draba** (L.) Desv. subsp. **draba**
Between Şuhut and Aydın village, field borders, 1100 m, 19 v 1997, E.Akçiçek 1736.
H.
- Cardaria draba** (L.) Desv. subsp. **chalepensis** (L.) O.E.Schulz
Dinar, Haydarlı, fallow fields, 1250 m, 14 vi 1998, E.Akçiçek 2150.
H.
- Isatis glauca** Aucher ex Boiss. subsp. **glauca**
Sandıklı, Ballık, roadsides, 1060 m, 4 viii 1997, E.Akçiçek 1872.
Ir.-Tur., H.
- Aethionema arabicum** (L.) Andrz. ex DC.
Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1904.
Th.
- A. cordatum** (Desf.) Boiss.
Şuhut, Arızlı village, rocky places, 1120 m, 19 v 2001, E.Akçiçek 3531.
Ir.-Tur., Ch.
- Thlaspi arvense** L.
Şuhut, Başören village, stony slopes, 1500 m, 24 vi 2001, E.Akçiçek 3701.
Th.
- T. perfoliatum** L.
Dinar, Akçaköy, stony slopes, 1025 m, 2 iv 2000, E.Akçiçek 2405.
Th.
- Capsella bursa-pastoris** (L.) Medik.
Şuhut, Ortapınar village, roadsides, 1150 m, 19 v 1997, E.Akçiçek 1711.
Th.
- C. rubella** Reut.
Şuhut, roadsides, 1100 m, 7 iii 2001, E.Akçiçek 3510.
Medit., Th.
- Boreava orientalis** Jaub. & Spach
Dinar, between Haydarlı and Örmekuyu, Naldöken Ridge, steppe, 1400 m, 26 vi 2000, E.Akçiçek 2992.
Th.
- The height of the specimens is 50 cm, but this character is given as 15-30 cm in the Flora of Turkey (I: 347-348) (Davis, 1965).
- Euclidium syriacum** (L.) R.Br.
Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2371.
Th.
- Neslia apiculata** Fisch., Mey. & Aveé-Lall.
5 km from Sandıklı to Şuhut, fallow fields, 1150 m, 18 v 2000, E.Akçiçek 2468.
Th.
- Alyssum dasycarpum** Steph. ex Willd.
Şuhut, Ağzıkara village, fallow fields, 1150 m, 18 v 2001, E.Akçiçek 3567.
Th.
- A. minus** (L.) Rothm. var. **micranthum** (C.A.Mey.) Dudley
Sincanlı, Taşoluk, field margins, 1200 m, 18 v 2001, E.Akçiçek 3604.
Th.
- A. strigosum** Banks & Sol. subsp. **strigosum**
Sandıklı, Bektaş village, Çıralık hill, volcanic areas, 1200 m, 18 v 2000, E.Akçiçek 2475.
Th.
- A. strigosum** Banks & Sol. subsp. **cedrorum** (Schott & Kotschy) Dudley
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1600 m, 14 vi 1998, E.Akçiçek 2113.
Th.
- A. hirsutum** M.Bieb. var. **hirsutum**
Sandıklı, Bektaş village, Çıralık hill, volcanic areas, 1200 m, 18 v 2000, E.Akçiçek 2470.
Th.
- A. thymops** (Hub.-Mor. & Reese) Dudley
15 km from Afyon to Şuhut, rocky slopes, 1100 m, 18 v 2001, E.Akçiçek 3549.
Endemic-LC, Ir.-Tur., H.
- A. murale** Waldst. & Kit. subsp. **murale** var. **murale**
Şuhut, Başören village, volcanic areas, 1400 m, 6 vii 1996, E.Akçiçek 1599.
H.
- Clypeola jonthlaspi** L.
10 km from Sandıklı to Şuhut, volcanic areas, 1300 m, 18 vi 2000, E.Akçiçek 2448.
Th.
- Erophila verna** (L.) Chevall. subsp. **verna**
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2586.
Th.
- E. verna** (L.) Chevall. subsp. **praecox** (Stev.) Walters
Dinar, Akçaköy, rocky slopes, 1025 m, 2 iv 2000, E.Akçiçek 2408.
Th.
- Arabis caucasica** Willd. subsp. **caucasica**
Şuhut, Kumalar yayla, rocky slopes, 1880 m, 23 viii 1998, E.Akçiçek 2285.
H.
- A. caucasica** Willd. subsp. **brevifolia** (DC.) Cullen
13 km from Sandıklı to Şuhut, rocky slopes, 1500 m, 18 v 2000, E.Akçiçek 2419.
E. Medit., H.
- Rorippa amphibia** (L.) Bess.
Sincanlı, Akören village, marshes, 1020 m, 18 v 2000, E.Akçiçek 2432.
H.
- Barbarea vulgaris** R.Br.
Şuhut, Ortapınar village, field margins, 1150 m, 19 v 1997, E.Akçiçek 1710.
H.
- The stem is sparsely hairy, but it is described as glabrous in the Flora of Turkey (I: 434) (Davis, 1965).
- B. trichopoda** Hausskn. ex Bornm.
Dinar, between Haydarlı and Soğucak, Naldöken ridge, rocky grounds, 1500 m, 20 v 2000, E.Akçiçek 2601.
Endemic-NT., H.
- Aubrieta canescens** (Boiss.) Bornm. subsp. **macrostyla** Cullen & Hub.-Mor.
15 km from Sandıklı to Şuhut, rocky slopes, 1550 m, 18 v 2000, E.Akçiçek 2428.
H.

- A. pinardii* Boiss.
Dinar, Haydarlı, Uzunmusakırı hill, rocky grounds, 1550 m, 14 vi 1998, E.Akçiçek 2135.
Endemic-LC., Ir.-Tur., H.
- Matthiola longipetala* (Vent.) DC. subsp. *bicornis* (Sibth. & Sm.) P.W.Ball
Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1900.
Th.
- Erysimum cuspidatum* (M.Bieb.) DC.
Dinar, Haydarlı, Uzunmusakırı hill, rocky grounds, 1600 m, 14 vi 1998, E.Akçiçek 2196.
H.
- E. pulchellum* (Willd.) Gay
Dinar, between Haydarlı and Soğucak, Naldöken Ridge, rocky grounds, 1500 m, 20 v 2000, E.Akçiçek 2600.
H.
- E. sintenisianum* Bornm.
Between Sandıklı and Şuhut, volcanic areas, 1800 m, 15 vii 1985, Y.Akman 14094.
H.
- E. crassipes* Fisch. & C.A.Mey.
Şuhut, Aydın village, waste places, 1150 m, 19 v 2000, E.Akçiçek 2524.
H.
- E. repandum* L.
5 km from Sandıklı to Şuhut, waste places, 1150 m, 18.5.2000, E.Akçiçek 2464
Th.
The height of the specimens is up to 30 cm, but this character is given as 5-25 cm in the Flora of Turkey (I:477) (Davis, 1965).
- Sisymbrium altissimum* L.
Şuhut, Tekke village, steppe, 1200 m, 6 vii 1996, E.Akçiçek 1603.
H.
- S. orientale* L.
Şuhut, Ortapınar village, roadsides, 1150 m, 19 v 1997, E.Akçiçek 1719.
Th.
- S. loeselii* L.
Şuhut, Anayurt village, meadows, 1100 m, 18 viii 2000 E.Akçiçek 3238.
H.

- Descurainia sophia* (L.) Webb ex Prantl
Sandıklı, Bektaş village, fallow fields, 1150 m, 18 v 2000, E.Akçiçek 2466.
H.
- Camelina rumelica* Velen.
Dinar, Haydarlı, Uzunmusakırı hill, rocky grounds, 1500 m, 14 vi 1998, E.Akçiçek 2111/A.
Th.
- C. microcarpa* Andrž.
Dinar, Bağcılar village, field borders, 1100 m, 14 vi 1998, E.Akçiçek 2094.
Th.
- RESEDACEAE**
- Reseda lutea* L. var. *lutea*
Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1898.
H.
- R. luteola* L.
Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2850.
H.
- CISTACEAE**
- Cistus laurifolius* L.
Sincanlı, Taşoluk, Balıkkaya hill, scrub, 1350 m, 13 vii 1997, E.Akçiçek 1797.
Medit., Ph.
The cymes is 7-flowered on the specimen, but it is 3-5 flowered in the Flora of Turkey (I: 508) (Davis, 1965).
- Helianthemum nummularium* (L.) Mill. subsp. *nummularium*
Şuhut, between Atlıhisar and Balçıkhisar, rocky places, 1050 m, 20 v 2000, E.Akçiçek 2654.
H.
- H. nummularium* (L.) Mill. subsp. *lycaonicum* Coode & Cullen
15 km from Afyon to Şuhut, calcareous rocks, 1120 m, 18 v 2001, E.Akçiçek 3629.
Endemic-LC, H.
- H. canum* (L.) Baumg.
20 km from Afyon to Şuhut, steppe, 1050 m, 20 v 1998, E.Akçiçek 1959.
Ch.

VIOLACEAE

- Viola sieheana* Becker
Şuhut, Siner village, meadows, 1200 m, 19 v 1997, E.Akçiçek 1702.
H.

POLYGALACEAE

- Polygala pruinosa* Boiss. subsp. *pruinosa*
15 km from Afyon to Şuhut, calcareous rocks, 1100 m, 18 v 2001, E.Akçiçek 3630.
H.

P. anatolica Boiss. & Heldr.

- Dinar, between Akçaköy and Haydarlı, steppe, 1000 m, 16 v 1999, E.Akçiçek 2321.
H.

CARYOPHYLLACEAE

Arenaria acerosa Boiss.

- Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 6 vii 1996, E.Akçiçek 1562.
Endemic-LC, H.

- Minuartia hirsuta* (M.Bieb.) Hand.-Mazz. subsp. *falcata* (Gris) Mattf.

- Şuhut, Başören village, Kilimatan hill, stony slopes, 2200 m, 25 vi 2000, E.Akçiçek 2905.
H.

- M. recurva* (All.) Schinz & Thell. subsp. *oreina* (Mattf.) McNeill

- Şuhut, Koçyatağı Yayla, stony places, 1400 m, 19 v 2000, E.Akçiçek 2545.
H.

M. juniperina (L.) Maire & Petitm.

- Sandıklı, Soğucak village, rocky places, 1500 m, 4 viii 1997, E.Akçiçek 1869.
Ch.

- M. umbellifera* (Boiss.) McNeill subsp. *salbacica* McNeill

- Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 6 vii 1996, E.Akçiçek 1552.
Endemic-EN, H.

This taxon was previously known only from type locality C2 Denizli, Baba Dağ. It is the first time this species has ever been collected from the study area. The habitat of the species is threatened by over grazing in the area. Therefore, the species may become extinct in the near future.

- M. hamata** (Hausskn.) Mattf.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1600 m, 14 vi 1998, E.Akçiçek 2192.
Th.
- M. leucocephaloides** (Bornm.) Bornm.
Şuhut, Aydın village, Anırtlıkaşı hill, volcanic areas, 1200 m, 13 vi 1998, E.Akçiçek 1980.
Endemic-LC, H.
- Stellaria media** (L.) Vill. subsp. **media**
Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1671.
Th.
- Cerastium banaticum** (Roch.) Heuff.
Sandıklı, Ballık, Kızılcılın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 2948.
H.
- C. fontanum** Baumg. subsp. **triviale** (Link) Jalas
Şuhut, Başören village, streamsides, 1400 m, 25 vii 2000, E.Akçiçek 3073.
H.
- C. dichotomum** L. subsp. **dichotomum**
5 km from Sandıklı to Şuhut, fallow fields, 1150 m, 18 v 2000, E.Akçiçek 2463.
Th.
- C. brachypetalum** Pers. subsp. **roeseri** (Boiss. & Heldr.) Nyman
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2230.
Th.
- Moenchia mantica** (L.) Bartl. subsp. **mantica**
Şuhut, Ortapınar village, field borders, 1100 m, 19 v 1997, E.Akçiçek 1669.
Th.
- M. mantica** (L.) Bartl. subsp. **caerulea** (Boiss.) Clapham
Şuhut, Taşoluk to Koçyatağı, rocky places, 1380 m, 19 v 2000, E.Akçiçek 2556.
Th.
- Telephium imperati** L. subsp. **orientale** (Boiss.) Nyman
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2228.
H.
- Dianthus anatolicus** Boiss.
20 km from Afyon to Şuhut, calcareous rocks, 1250 m, 23 vi 2001, E.Akçiçek 3726.
Endemic-LC, H.
- D. balansae** Boiss.
Şuhut, Kumalar yayla, steppe, 1800 m, 6 vii 1996, E.Akçiçek 1563.
Endemic-LC, H.
- D. zonatus** Fenzl var. **zonatus**
15 km from Sandıklı to Afyon, steppe, 1500 m, 23 ix 2000, E.Akçiçek 3298.
H.
- D. zonatus** Fenzl var. **aristatus** (Boiss.) Reeve
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1627/A.
H.
- D. lydus** Boiss.
Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1834.
Endemic-LC, H.
- Petrorhagia velutina** (Guss.) Ball & Heywood
Sandıklı, Bektaş village, Çıralık hill, volcanic rocks, 1200 m, 18 v 2000, E.Akçiçek 2480.
Th.
- Velezia rigida** L.
Şuhut, Güneytepe village, rocky slopes, 1300 m, 25 vi 2000, E.Akçiçek 2939.
Th.
- Saponaria viscosa** C.A.Mey.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1550 m, 14 vi 1998, E.Akçiçek 2130.
Ir.-Tur., Th.
- S. kotschyi** Boiss.
Sandıklı, Ballık, Kızılcılın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 3032.
Endemic-LC, H.
- Bolanthus spergulifolius** (Jaub. & Spach) Hub.-Mor.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2193.
Endemic-VU, Ch.
- Vaccaria pyramidata** Medik. var. **grandiflora** (Fisch. ex DC.) Cullen
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1550 m, 14 vi 1998, E.Akçiçek 2124.
Th.
- Silene italica** (L.) Pers.
Şuhut, Başören village, Kıran hill, rocky slopes, 1500 m, 13 vi 1998, E.Akçiçek 2051.
H.
- S. bupleuroides** L.
Şuhut, Başören village, Kıran hill, steppe, 1700 m, 23 viii 1998, E.Akçiçek 2277.
H.
- S. otites** (L.) Wibel
Şuhut, Güneytepe village, rocky slopes, 1200 m, 25 vi 2000, E.Akçiçek 2941.
H.
- S. cappadocica** Boiss. & Heldr.
Dinar, Haydarlı, Uzunmusakırı hill, on shady rocks, 1500 m, 13 vi 1998, E.Akçiçek 2045.
Ir.-Tur., Ch.
- S. supina** M.Bieb. subsp. **pruinosa** (Boiss.) Chowdhuri
Sandıklı, between Ballık and Örmekuyu, steppe, 1350 m, 26 vi 2000, E.Akçiçek 2955.
Ch.
- S. arguta** Fenzl
15 km from Sandıklı to Şuhut, volcanic areas, 1550 m, 18 v 2000, E.Akçiçek 2431.
Ir.-Tur., H.
- S. odontopetala** Fenzl
Dinar, Haydarlı, Direkli ridge, rocky places, 1300 m, 2 vi 2000, E.Akçiçek 3049.
H.
- S. vulgaris** (Moench) Garcke var. **vulgaris**
Şuhut, Dadak village, spring margins, 1330 m, 23 ix 2000, E.Akçiçek 3351.
H.
- S. rhynchocarpa** Boiss.
Şuhut, Kumalar yayla, steppe, 1880 m, 13 vi 1998, E.Akçiçek 2059.
Ch.
- S. compacta** Fisch.
Şuhut, Başören village, steppe, 1400 m, 6 vii 1996, E.Akçiçek 1600.
H.
- S. dichotoma** Ehrh. subsp. **dichotoma**
15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3545.
Th.

S. dichotoma Ehrh. subsp. *sibthorpiana* (Rchb.) Rech.

Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1912.

Th.

S. subconica Friv.

Dinar, between Haydarlı and Soğucak, rocky places, 1100 m, 20 v 2000, E.Akçiçek 2681.

Th.

S. lydia Boiss.

20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2255.

E. Medit., Th.

S. conoidea L.

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2317.

Th.

Agrostemma githago L.

Şuhut, Başören village, rocky slopes, 1500 m, 24 vi 2001, E.Akçiçek 3710.

Th.

ILLECEBRACEAE

Herniaria incana Lam.

Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1788.

H.

Paronychia kurdica Boiss. subsp. *kurdica* var. *kurdica*

20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1960.

H.

P. angorensis Chaudhri

15 km from Afyon to Şuhut, fallow fields, 1300 m, 23 vi 2001, E.Akçiçek 3682.

Endemic-VU, Ir.-Tur., H.

POLYGONACEAE

Polygonum amphibium L.

Sincanlı, Akören village, marshes, 1050 m, 23 ix 2000, E.Akçiçek 3288.

H.

P. cognatum Meissn.

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2194.

H.

P. arenastrum Bor

Dinar, Doğanlı village, field margins, 1180 m, 24 ix 2000, E.Akçiçek 3250.

Th.

P. bellardii All.

Sincanlı, Taşoluk, fallow fields, 1200 m, 24 vi 2000, E.Akçiçek 2870.

Th.

P. convolvulus L.

Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2087.

H.

Rumex acetosella L.

Şuhut, Başören village, Çakmaktepe pass, rocky slopes, 1880 m, 6 vii 1996, E.Akçiçek 1561.

H.

R. scutatus L.

Şuhut, Tekke village, roadsides, 1200 m, 23 viii 1998, E.Akçiçek 2301.

Ch.

R. gracilescens Rech.

Şuhut, Başören yayla, steppe, 1600 m, 25 vi 2000, E.Akçiçek 2883.

Endemic-NT, H.

R. patientia L.

Şuhut, Dadak village, field margins, 1250 m, 28 x 2000, E.Akçiçek 3405.

H.

R. cristatus DC.

Şuhut, Aydın village, Angıtlıkaşı hill, volcanic areas, 1200 m, 13 vi 1998, E.Akçiçek 1972.

H.

R. crispus L.

Şuhut, Başören village, rocky slopes, 1400 m, 6 vii 1996, E.Akçiçek 1589.

H.

R. conglomeratus Murray

Şuhut, Dadak village, field margins, 1250 m, 28 x 2000, E.Akçiçek 3406.

H.

R. obtusifolius L. subsp. *subalpinus* (Schur) C'elak.

Sincanlı, Akören village, marshes, 1000 m, 24 vi 2000, E.Akçiçek 2704.

H.

R. pulcher L.

Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1973.

H.

R. dentatus L. subsp. *halacsyi* (Rech. pat.) Rech. f.

Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1997.

Th.

CHENOPODIACEAE

Chenopodium botrys L.

Şuhut, Kumalar yayla, stony places, 1800 m, 23 viii 1998, E.Akçiçek 2296.

Th.

C. foliosum (Moench) Asch.

Şuhut, Güneytepe village, steppe, 1150 m, 25 vi 2000, E.Akçiçek 2920.

H.

C. murale L.

Sincanlı, Akören village, marshes, 1050 m, 23 ix 2000, E.Akçiçek 3291.

Th.

C. album L. subsp. *album* var. *album*

Sandıklı, Ballık, roadsides, 1060 m, 4 viii 1997, E.Akçiçek 1840.

Th.

Atriplex hortensis L.

Şuhut, Çakırözü village, roadsides, 1200 m, 23 ix 2000, E.Akçiçek 3277.

Th.

A. lasiantha Boiss.

Şuhut, Anayurt village, roadsides, 1100 m, 26 vii 2000, E.Akçiçek 3204.

Th.

Salsola tragus L.

Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3399.

Th.

Noaea mucronata (Forssk.) Asch. & Schweinf. subsp. *mucronata*

23 km from Afyon to Şuhut, waste places, 930 m, 24 ix 2000, E.Akçiçek 3324.

Ch.

AMARANTHACEAE

Amaranthus retroflexus L.

Şuhut, Koçyatağı village, roadsides, 1200 m, 25 vii 2000, E.Akçiçek 3143.

Th.

- A. albus** L.
Şuhut, between Örmekuyu and Ballık, 1300 m, 24 ix 2000, E.Akçiçek 3339.
Th.
- TAMARICACEAE**
Tamarix parviflora DC.
Sandıklı, wet places, 1100 m, 28 x 2000, E.Akçiçek 3419.
Ph.
- HYPERICACEAE / GUTTIFERAE**
Hypericum heterophyllum Vent.
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1750.
Endemic-LC, Ch.
- H. kotschyianum** Boiss.
Sincanlı, Taşoluk, steppe, 1450 m, 28 x 2000, E.Akçiçek 3469.
Endemic-NT, H.
- H. origanifolium** Willd.
Şuhut, Başören village, Kıran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2015.
H.
- H. aviculariifolium** Jaub. & Spach subsp. **byzantinum**
Şuhut, Kumalar yayla, steppe, 1700 m, 4 viii 1993, Z.Aytaç 6541.
Endemic-LC, E. Medit., H.
- H. perforatum** L.
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1787.
H.
- MALVACEAE**
Malva sylvestris L.
Şuhut, Anayurt village, field margins, 1100 m, 26 vii 2000, E.Akçiçek 3201.
H.
- M. neglecta** Wallr.
10 km from Sandıklı to Şuhut, volcanic areas, 1300 m, 18 vi 2000, E.Akçiçek 2439.
Th.
- Alcea setosa** (Boiss.) Alef.
Şuhut, Anayurt village, field margins, 1100 m, 26 vii 2000, E.Akçiçek 3160.
E. Medit., H.
- A. apterocarpa** (Fenzl) Boiss.
Şuhut, Koçyatağı village, roadsides, 1200 m, 25 vii 2000, E.Akçiçek 3145.
Endemic-LC, Ir.-Tur., H.
- A. pallida** Waldst. & Kit.
Şuhut, Tekke village, steppe, 1200 m, 6 vii 1996, E.Akçiçek 1607.
H.
- LINACEAE**
Linum cariense Boiss.
15 km from Afyon to Şuhut, steppe, 1100 m, 18 v 2001, E.Akçiçek 3637.
Endemic-LC, Ir.-Tur., H.
- L. hirsutum** L. subsp. **anatolicum** (Boiss.) Hayek var. **anatolicum**
Şuhut, between Balçıkhisar and Yıprak, steppe, 1270 m, 24 ix 2000, E.Akçiçek 3269.
Endemic-LC, Ir.-Tur., H.
- L. hirsutum** L. subsp. **pseudoanatolicum** Davis
Sandıklı, Ballık, Kızılcılın hill, rocky places, 1350 m, 26 vi 2000, E.Akçiçek 2952/B.
Endemic-LC, Ir.-Tur., H.
- L. bienne** Mill.
15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3556.
Medit., H.
- GERANIACEAE**
Geranium lucidum L.
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3525.
Th.
- G. rotundifolium** L.
Şuhut, Aydın village, Angıtlıkaşı hill, volcanic areas, 1200 m, 13 vi 1998, E.Akçiçek 1983.
Th.
- G. tuberosum** L. subsp. **tuberosum**
Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2392.
G.
- G. pyrenaicum** Burm. f.
Şuhut, Kumalar yayla, steppe, 1800 m, 6 vii 1996, E.Akçiçek 1551.
H.
- G. cinereum** Cav. subsp. **subcaulescens** (L'Hérit. ex DC.) Hayek var. **subcaulescens**
Şuhut, Kumalar yayla, steppe, 1750 m, 13 vi 1998, E.Akçiçek 1977.
H.
- Erodium ciconium** (L.) L'Hérit.
Şuhut, Başören village, Kıran hill, rocky places, 1600 m, 13 vi 1998, E.Akçiçek 2027.
Th.
- E. amanum** Boiss. & Kotschy
15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3560.
Endemic-LC, H.
- E. cicutarium** (L.) L'Hérit. subsp. **cicutarium**
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2211.
Th.
- E. acaule** (L.) Bech. & Thell.
Dinar, Akçaköy, rocky slopes, 1025 m, 2 iv 2000, E.Akçiçek 2407.
H.
- ZYGOPHYLLACEAE**
Tribulus terrestris L.
Sandıklı, Ballık, roadsides, 1060 m, 4 viii 1997, E.Akçiçek 1871.
Th.
- Peganum harmala** L.
Şuhut, Anayurt village, field margins, 1100 m, 26 vii 2000, E.Akçiçek 3158.
H.
- RUTACEAE**
Haplophyllum suaveolens (DC.) G. Don var. **suaveolens**
Dinar, Akçaköy, Saribelen ridge, rocky slopes, 1100 m, 26 vi 2000, E.Akçiçek 3010.
H.
- ACERACEAE**
Acer pseudoplatanus L.
Sandıklı, Ballık, roadsides, 1100 m, 26 vi 2000, E.Akçiçek 2973.
VU, Euro-Sib., Ph.
- Fruiting wings are 40 x 18 mm on this specimen, but it is described as c. 30 x 10-12 mm in the Flora of Turkey (II: 511) (Davis, 1966).
- A. negundo** L.
Sandıklı, Ballık, roadsides, 1100 m, 26 vi 2000, E.Akçiçek 2972.
Ph.

RHAMNACEAE

Rhamnus rhodopeus Velen. subsp. **rhodopeus**

Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1647.

Ph.

R. oleoides L. subsp. **graecus** (Boiss. & Reut.) Holmboe

Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1654.

E. Medit., Ph.

R. thymifolius Bornm.

Sandıklı, Ballık, steppe, 1150 m, 4 viii 1997, E.Akçiçek 1862.

Endemic-LC, Ph.

CELASTRACEAE

Euonymus latifolius (L.) Mill. subsp. **latifolius**

16 km from Sandıklı to Şuhut, rocky slopes, 1650 m, 23 ix 2000, E.Akçiçek 3362.

Euro-Sib., Ph.

FABACEAE / LEGUMINOSAE

Cytisus procumbens (Waldst. & Kit. ex Willd.) Spreng.

Dinar, Haydarlı, Naldöken ridge, rocky slopes, 1500 m, 20 v 2000, E.Akçiçek 2598.

Ch.

Chamaecytisus hirsutus (L.) Link

Şuhut, Ortapınar village, roadsides, 1100 m, 19 v 1997, E.Akçiçek 1689.

Ch.

C. eriocarpus (Boiss.) Rothm.

15 km from Afyon to Şuhut, steppe, 1100 m, 18 v 2001, E.Akçiçek 3638.

E. Medit., Ch.

Genista lydia Boiss. var. **lydia**

Between Sandıklı and Şuhut, N slope, 1800 m, 15 vii 1985, Y.Akman 14126.

Ch.

G. burdurensis P.Gibbs

Şuhut, Başören village, Toklu hill, stony slopes, 1650 m, 25 vi 2000, E.Akçiçek 2934.

Endemic-LC, Ir.-Tur., Ch.

The stem is 20 cm and pedicel up to 5 mm on the specimen, but these characters are given as c. 15 cm and c. 1mm respectively in the Flora of Turkey (III: 27) (Davis, 1969).

This plant is a regional endemic species only known from C2 Burdur and the study area. It was collected at three localities in the area. The species is rare in the area. The locality of the taxon is under threat because of human impact.

G. albida Willd.

15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3550.

Ch.

Galega officinalis L.

Sandıklı, Taşoluk, meadows, 1100 m, 13 vii 1997, E.Akçiçek 1772.

Euro-Sib., H.

Colutea cilicica Boiss. & Bal.

20 km from Afyon to Şuhut, calcareous rocks, 1250 m, 23 vi 2001, E.Akçiçek 3661.

Ph.

C. melanocalyx Boiss. & Heldr. subsp. **davisiana** (Browicz) Chamb.

Dinar, Akçaköy, Sarıbelen Ridge, rocky slopes, 1100 m, 26 vi 2000, E.Akçiçek 3007.

Endemic-LC, E. Medit., Ph.

Astragalus hamosus L.

Sincanlı, Taşoluk, waste fields, 1200 m, 24 vi 2000, E.Akçiçek 2839.

Th.

A. oxytropifolius Boiss.

Şuhut, between Kocyatağı and Dadak, rocky places, 1350 m, 23 vi 2001, E.Akçiçek 3731.

Ir.-Tur., H.

A. microcephalus Willd.

10 km from Sandıklı to Şuhut, Başkaya hill, steppe, 1300 m, 25 vii 2000, E.Akçiçek 3105.

Ir.-Tur., Ch.

A. condensatus Ledeb.

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2325.

Ch.

A. tmoleus Boiss.

Sandıklı, Dutağacı village, volcanic rocks, 1300 m, 15 vii 1985, Y.Akman 14124.

Endemic-LC, Ch.

A. thracicus Gris subsp. **thracicus**

14 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 25 vii 2000, E.Akçiçek 3131.

Ch.

A. parnassi Boiss. subsp. **parnassi**

Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 6 vii 1996, E.Akçiçek 1558.

Ch.

A. ponticus Pall.

Şuhut, field margins, 1100 m, 13 vi 1998, E.Akçiçek 2008.

H.

A. odoratus Lam.

Dinar, Haydarlı, Uzunmusakırı hill, rocky slopes, 1550 m, 14 vi 1998, E.Akçiçek 2126.

H.

A. lycius Boiss.

Şuhut, between Atlıhisar and Balçıkhisar, rocky places, 1050 m, 20.5.2000, E.Akçiçek 2659.

Endemic-LC, H.

A. sibthorpianus Boiss.

Dinar, between Haydarlı and Soğucak, rocky places, 1100 m, 20 v 2000, E.Akçiçek 2642. Şuhut, between Atlıhisar and Balçıkhisar, rocky places, 1050 m, 20 v 2000, E.Akçiçek 2648.

Endemic-LC, H.

This taxon was previously known only from type locality A2 Ulu Dağ. It is the first time this species has ever been collected from the study area. The specimens were collected from the given two localities. There is no particular threat to this taxon in the area.

A. acmonotrichus Fenzl

Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2587.

Endemic-LC, E. Medit., H.

A. angustifolius Lam. subsp. **angustifolius** var. **angustifolius**

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2307.

Ch.

A. angustifolius Lam. subsp. **pungens** (Willd.) Hayek

Şuhut, Ortapınar village, Kocatepe, steppe, 1150 m, 20 v 1998, E.Akçiçek 1895.

Ch.

A. gymnolobus Fisch.

Sandıklı, Soğucak village, steppe, 1520 m, 4 viii 1997, E.Akçiçek 1852.

Endemic-LC, Ir.-Tur., Ch.

- A. flavescens** Boiss.
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1831.
Endemic-NT, E. Medit., Ch.
This plant is regional endemic species only known from B2 Manisa Bozdağ and the study area. The taxon forms common steppe associations of the area with *Astragalus microcephalus*. It was collected at four localities in the area. The species has been used for heating. Therefore, the species faces human pressure.
- A. vulnerariae** DC.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2222.
Endemic-LC, Ch.
Vicia cracca L. subsp. *atroviolacea* (Bornm.) Davis
Şuhut, roadsides, 1100 m, 19 v 1997, E.Akçiçek 1735.
H.
V. cracca L. subsp. *stenophylla* Velen.
Şuhut, Başören village, steppe, 1400 m, 6 vii 1996, E.Akçiçek 1584.
H.
V. villosa Roth subsp. *eriocarpa* (Hausskn.) P.W.Ball
Dinar, Akçaköy, fields, 900 m, 16 v 1999, E.Akçiçek 2315.
Th.
V. peregrina L.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1600 m, 14 vi 1998, E.Akçiçek 2121.
Th.
V. pannonica Crantz var. *purpurascens* (DC.) Ser.
Dinar, Denizli and Afyon crossroads, field borders, 960 m, 16 v .1999, E.Akçiçek 2378/B.
Th.
V. sativa L. subsp. *nigra* (L.) Ehrh. var. *segetalis* (Thuill.) Ser. ex DC.
Between Sandıklı and Şuhut, Çıralık hill, volcanic areas, 1200 m, 18 v 2000, E.Akçiçek 2479.
Th.
V. narbonensis L. var. *narbonensis*
Sincanlı, Taşoluk, field borders, 1200 m, 18 v 2001, E.Akçiçek 3603.
Th.
- Lens nigricans** (M.Bieb.) Godr.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2235.
Medit., Th.
Lathyrus digitatus (M.Bieb.) Fiori
Şuhut, Ortapınar village, roadsides, 1100 m, 19 v 1997, E.Akçiçek 1718.
E. Medit., H.
L. pratensis L.
Şuhut, Başören village, rocky slopes, 1500 m, 24 vi 2001, E.Akçiçek 3698.
Euro-Sib., H.
L. laxiflorus (Desf.) Kuntze subsp. *laxiflorus*
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1766.
H.
L. cicera L.
10 km from Sandıklı to Şuhut, volcanic areas, 1300 m, 18 vi 2000, E.Akçiçek 2444.
Th.
L. sativus L.
Sandıklı, Ballık, fallow fields, 1200 m, 26 vi 2000, E.Akçiçek 3055.
Th.
Ononis adenotricha Boiss. var. *adenotricha*
Dinar, between Haydarlı and Örmekuyu, Naldöken ridge, steppe, 1300 m, 26 vi 2000, E.Akçiçek 2997.
E. Medit., H.
O. spinosa L. subsp. *leiosperma* (Boiss.) Şirj.
Şuhut, Başören village, steppe, 1400 m, 6 vii 1996, E.Akçiçek 1592.
H.
Trifolium repens L. var. *repens*
Şuhut, Kumalar yayla, steppe, 1500 m, 25 vi 2000, E.Akçiçek 2929.
H.
T. repens L. var. *giganteum* Lag.-Foss.
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2258.
H.
T. hybridum L. var. *hybridum*
Sincanlı, Taşoluk, fields, 1200 m, 24 vi 2000, E.Akçiçek 2842.
H.
- T. campestre** Schreb.
Sincanlı, Taşoluk, fields, 1200 m, 24 vi 2000, E.Akçiçek 2768.
Th.
T. resupinatum L. var. *resupinatum*
Şuhut, Başören village, fields, 1400 m, 13 vi 1998, E.Akçiçek 2019.
Th.
T. pratense L. var. *pratense*
Şuhut, Başören yayla, fields, 1500 m, 25 vi 2000, E.Akçiçek 2887.
H.
The leaflets are up to 3.5 cm long on the specimen, but they are described as 1.5-3 cm in the Flora of Turkey (III: 415-416) (Davis, 1969).
T. medium L. var. *medium*
Sincanlı, Taşoluk, meadows, 1100 m, 13 vii 1997, E.Akçiçek 1754.
H.
T. pannonicum Jacq. subsp. *elongatum* (Willd.) Zoh.
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1835.
Endemic-LC, H.
T. hirtum All.
Şuhut, Başören village, Kiran hill, rocky slopes, 1400 m, 13 vi 1998, E.Akçiçek 2009.
Medit., Th.
T. arvense L. var. *arvense*
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1817.
Th.
Melilotus officinalis (L.) Desr.
Dinar, Bağcılar village, roadsides, 1100 m, 14 vi 1998, E.Akçiçek 2174.
Th.
M. bicolor Boiss. & Bal.
Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1690.
Endemic-LC, Ir.-Tur., Th.
Trigonella spruneriana Boiss. var. *spruneriana*
Şuhut, Arızlı village, marshes, 1200 m, 29 x 2000, E.Akçiçek 3389.
Ir.-Tur., Th.

- T. velutina* Boiss.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2236.
Ir.-Tur., Th.
- T. aurantiaca* Boiss.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2104.
Ir.-Tur., Th.
- T. fischeriana* Ser.
Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1924.
Ir.-Tur., Th.
- T. coerulescens* (M.Bieb.) Hal.
Şuhut, Ağzıkara village, fallow fields, 1150 m, 18 v 2001, E.Akçiçek 3568.
Ir.-Tur., Th.
- Medicago lupulina* L.
Sandıklı, Haydarlı, field border, 1500 m, 13 vi 1998, E.Akçiçek 2048.
H.
- M. sativa* L. subsp. *sativa*
Sincanlı, Taşoluk, meadows, 1100 m, 13 vii 1997, E.Akçiçek 1812.
H.
- M. rigidula* (L.) All. var. *rigidula*
10 km from Sandıklı to Şuhut, steppe, 1300 m, 18 vi 2000, E.Akçiçek 2436.
Th.
- Lotus corniculatus* L. var. *corniculatus*
Sincanlı, Akören village, roadsides, 1000 m, 24 vi 2000, E.Akçiçek 2700.
H.
- L. corniculatus* L. var. *alpinus* Ser.
Şuhut, Başören village, steppe, 1400 m, 6 vii 1996, E.Akçiçek 1591.
H.
- L. aegaeus* (Gris) Boiss.
Sincanlı, Taşoluk, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2734.
Ir.-Tur., H.
- Coronilla emerus* L. subsp. *emeroides* (Boiss. & Sprun) Hrabětova
Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 3313.
Ph.
- C. varia* L. subsp. *varia*
Dinar, Haydarlı, forest, 1300 m, 14 vi 1998, E.Akçiçek 2184.
H.
- Hedysarum varium* Willd.
Dinar, Haydarlı, Naldöken ridge, steppe, 1400 m, 26 vi 2000, E.Akçiçek 3002.
Ir.-Tur., H.
- H. cappadocicum* Boiss.
15 km from Afyon to Şuhut, rocky places, 1100 m, 18 v 2001, E.Akçiçek 3550.
Endemic-LC, Ir.-Tur., H.
- Onobrychis armena* Boiss. & Huet
Şuhut, Güneytepe village, steppe, 1150 m, 25 vi 2000, E.Akçiçek 2917.
Endemic-LC, H.
- O. oxyodonta* Boiss.
Sandıklı, Ballık, Deliklitaş hill, steppe, 1300 m, 4 viii 1997, E.Akçiçek 1886.
H.
- O. hypargyrea* Boiss.
Dinar, Akçaköy, Saribelen ridge, rocky places, 1100 m, 26 vi 2000, E.Akçiçek 3006.
H.
- Alhagi pseudalhagi* (M.Bieb.) Desv.
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3400.
Ir.-Tur., Ch.
- ROSACEAE**
- Prunus spinosa* L. subsp. *dasyphylla* (Schur) Domin
Sandıklı, Başağaç village, roadsides, 1100 m, 3 viii 1996, E.Akçiçek 1656.
Euro-Sib., Ph.
- P. x domestica* L.
Şuhut, Dadak village, field borders, 1250 m, 28 x 2000, E.Akçiçek 3404.
Ph.
- P. divaricata* Ledeb. subsp. *divaricata*
Şuhut, Kumalar yayla, field borders, 1800 m, 6 vii 1996, E.Akçiçek 1576.
Ph.
- Cerasus prostrata* (Labill.) Ser. var. *prostrata*
Sandıklı, Ballık, rocky places, 1300 m, 4.8.1997, E.Akçiçek 1885.
Ch.
- Amygdalus communis* L.
Sandıklı, Ballık, roadsides, 1250 m, 26 vi 2000, E.Akçiçek 2953.
Ph.
- A. webbii* Spach
15 km from Sandıklı to Şuhut, rocky places, 1550 m, 18 v 2000, E.Akçiçek 2424.
E. Medit., Ph.
- Rubus discolor* Weihe & Nees
Şuhut, Kavaklı village, steppe, 1300 m, 6 vii 1996, E.Akçiçek 1611.
Ph.
- R. canescens* DC. var. *canescens*
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1761.
Ph.
- Potentilla rupestris* L.
Şuhut, between Taşoluk and Başarap, steppe, 1400 m, 18 v 2001, E.Akçiçek 3571.
Euro-Sib., H.
- P. recta* L.
Şuhut, Kavaklı village, steppe, 1300 m, 13 vi 1998, E.Akçiçek 1961.
H.
- P. supina* L.
Sincanlı, Akören village, marshes, 1050 m, 28 x 2000, E.Akçiçek 3495.
H.
- P. reptans* L.
Sincanlı, Akören village, roadsides, 1000 m, 24 vi 2000, E.Akçiçek 2699.
H.
- Geum urbanum* L.
Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1770.
Euro-Sib., H.
- Agrimonia eupatoria* L.
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1639.
H.
- A. repens* L.
Şuhut, between Akyatak and Taşoluk, spring margins, 1480 m, 23 vi 2001, E.Akçiçek 3754.
H.

Sanguisorba minor Scop. subsp. *muricata* (Spach) Briq.

Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1762.

H.

Rosa foetida Herrm.

Şuhut, Başören village, Kiran hill, rocky places, 1600 m, 13 vi 1998, E.Akçiçek 2024.

Ir.-Tur., Ph.

R. hemisphaerica J. Herrm.

Şuhut, Kumalar yayla, steppe, 1800 m, 6 vii 1996, E.Akçiçek 1574.

Ir.-Tur., Ph.

R. pulverulenta M.Bieb.

Şuhut, Çakmaktepe pass, volcanic rocks, 1880 m, 23 viii 1998, E.Akçiçek 2282.

Ch.

R. canina L.

Sincanlı, Serban, steppe, 1200 m, 23 viii 1998, E.Akçiçek 2303.

Ph.

Mespilus germanica L.

Şuhut, Dadak, steppe, 1480 m, 23 ix 2000, E.Akçiçek 3313.

Hyrcano-Euxine, Ph.

Cotoneaster integerrimus Medik.

16 km from Sandıklı to Şuhut, rocky places, 1650 m, 23 ix 2000, E.Akçiçek 3358.

Ph.

C. nummularia Fisch. & C.A.Mey.

Şuhut, Başören yayla, steppe, 1600 m, 25 vi 2000, E.Akçiçek 2890.

Ph.

Crataegus tanacetifolia (Lam.) Pers.

Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1803.

Endemic-LC, Ph.

C. x bornmuelleri Zabel

Şuhut, Kumalar yayla, steppe, 1600 m, 25 vi 2000, E.Akçiçek 2927.

Ph.

C. orientalis Pall. ex M.Bieb. var. *orientalis*

16 km from Sandıklı to Şuhut, rocky places, 1650 m, 23 ix 2000, E.Akçiçek 3360.

Ph.

C. szovitsii Pojark

Şuhut, Kavaklı village, rocky places, 1300 m, 6 vii 1996, E.Akçiçek 1615.

Ph.

C. curvisepala Lindm.

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2343.

Ph.

The leaves are up to 55 mm long on the specimen, but they are described as 40 mm long in the Flora of Turkey (IV: 144) (Davis, 1972).

C. monogyna Jacq. subsp. *monogyna*

Şuhut, between Balçıkhisar and Yıprak, steppe, 1270 m, 24 ix 2000, E.Akçiçek 3265.

Ph.

C. monogyna Jacq. subsp. *azarella* (Gris.) Franco

Şuhut, Ortapınar village, roadsides, 1000 m, 19 v 1997, E.Akçiçek 1708.

Ph.

C. microphylla C.Koch

Şuhut, Aydın village, steppe, 1150 m, 19 v 2000, E.Akçiçek 2512.

Hyrcano-Euxine, Ph.

Sorbus umbellata (Desf.) Fritsch var. *umbellata*

Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1762.

Ph.

Malus sylvestris Mill. subsp. *orientalis* (Uglitzk.) Browicz var. *orientalis*

13 km from Sandıklı to Şuhut, steppe, 1500 m, 18 v 2000, E.Akçiçek 2420.

Ph.

Pyrus elaeagnifolia Pall. subsp. *elaeagnifolia*

10 km from Sandıklı to Şuhut, steppe, 1300 m, 18 vi 2000, E.Akçiçek 2452.

Ph.

Amelanchier parviflora Boiss. var. *dentata* Browicz

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2308.

Endemic-VU, E. Medit., Ph.

LYTHRACEAE

Lythrum salicaria L.

Şuhut, Anayurt village, meadows, 1100 m, 18 viii 2000, E.Akçiçek 3244.

Euro-Sib., H.

ONAGRACEAE

Epilobium angustifolium L.

Şuhut, Dadak, steppe, 1330 m, 23 ix 2000, E.Akçiçek 3306.

G.

E. hirsutum L.

Şuhut, Uzunpınar village, fallow fields, 1150 m, 26 vii 2000, E.Akçiçek 3198.

G.

E. montanum L.

Şuhut, Başören village, streamsides, 1500 m, 24 vi 2001, E.Akçiçek 3716.

Euro-Sib., G.

E. tetragonum L. subsp. *tetragonum*

Between Şuhut and Taşoluk, steppe, 1500 m, 24 vi 2000, E.Akçiçek 2833.

H.

E. minutiflorum Hausskn.

Şuhut, between Örmekuyu and Ballık 1350 m, 24 ix 2000, E.Akçiçek 3343.

Ir.-Tur., H.

CUCURBITACEAE

Ecballium elaterium (L.) A.Rich.

Sincanlı, Akören village, field margins, 1050 m, 28 x 2000, E.Akçiçek 3501.

Medit., H.

CRASSULACEAE

Umbilicus erectus DC.

Şuhut, between Koçyatağı and Başarap, volcanic rocks, 1200 m, 25 vii 2000, E.Akçiçek 3087.

Ch.

Rosularia sempervivum (M.Bieb.) A.Berger subsp. *sempervivum*

Dinar, between Haydarlı and Örmekuyu, Direkli ridge, on rock, 1300 m, 26 vi 2000, E.Akçiçek 3053.

Ir.-Tur., Ch.

Sedum amplexicaule DC.

Şuhut, Akyatak, steppe, 1300 m, 23 vi 2001, E.Akçiçek 3689.

Medit., Ch.

S. sartorianum Boiss. subsp. *sartorianum*

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1550 m, 14 vi 1998, E.Akçiçek 2120.

Ch.

S. album L.

Şuhut, Çakmaktepe pass, volcanic rocks, 1880 m, 6 vii 1996, E.Akçiçek 1601.

Ch.

S. lydium Boiss.

Şuhut, Siner village, rocky places, 1200 m, 19 v 1997, E.Akçiçek 1705.

Endemic-LC, E. Medit., Ch.

S. sempervivoides M.Bieb.

Şuhut, Kavaklı village, rocky places, 1300 m, 6 vii 1996, E.Akçiçek 1614.

Ch.

SAXIFRAGACEAE

Saxifraga sibirica L. subsp. *sibirica*

15 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 18 v 2000, E.Akçiçek 2430.

G.

PARNASSIACEAE

Parnassia palustris L.

Şuhut, Arızlı village, meadows, 1200 m, 29 x 2000, E.Akçiçek 3417.

H.

GROSSULARIACEAE

Ribes multiflorum Kit. ex Roem. & Schult.

Şuhut, Başören village, Quercus forest, 1600 m, 24 vi 2001, E.Akçiçek 3720.

VU, E. Medit., Ph.

This species is known only from B2 Uşak, Murat Mountain, according to the Flora of Turkey. The species is distributed in Italy, Sardinia, the Balkans and Bulgaria. It grows in *Quercus vulcanica* forest in the area. The species is rare in the area and only two shrub specimens were seen in the given locality.

The leaves are c. 6 x 5 cm on the specimen, but they are described as c. 10 x 10 cm in the Flora of Turkey (X: 145) (Davis, 1988).

APIACEAE / UMBELLIFERAE

Eryngium campestre L. var. *virens* Link

Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1633.

H.

Echinophora tournefortii Jaub. & Spach

Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1634.

Ir.-Tur., H.

Anthriscus nemorosa (M.Bieb.) Spreng.

Sincanlı, Taşoluk, rocky places, 1400 m, 24 vi 2000, E.Akçiçek 2732.

H.

A. caucalis M.Bieb.

Şuhut, roadsides, 1150 m, 19 v 2000, E.Akçiçek 2590.

Th.

Scandix stellata Banks & Sol.

Dinar, Haydarlı, Uzunmusakırı hill, 1500 m, 14 vi 1998, E.Akçiçek 2110.

Th.

S. iberica M.Bieb.

20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1948.

Th.

S. macrorhyncha C.A.Mey.

Şuhut, Güneytepe village, rocky places, 1200 m, 25 vi 2000, E.Akçiçek 2937.

Th.

S. australis L. subsp. *grandiflora* (L.) Thell.

Şuhut, Ortapınar village, meadows, 1100 m, 19 v 1997, E.Akçiçek 1673.

Th.

Bifora radians M.Bieb.

Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1963.

Th.

Smyrniium connatum Boiss. & Kotschy

Şuhut, Kumalar yayla, rocky places, 1600 m, 25 vi 2000, E.Akçiçek 2923.

E. Medit., H.

Bunium ferulaceum Sm.

Sincanlı, Taşoluk, field borders, 1200 m, 18 v 2001, E.Akçiçek 3602.

Medit., G.

Pimpinella tragium Vill. subsp. *lithophila* (Schischk.) Tutin

Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1805.

H.

P. tragium Vill. subsp. *polyclada* (Boiss. & Heldr.) Tutin

Sincanlı, Taşoluk, rocky places, 1300 m, 24 vi 2000, E.Akçiçek 2733.

H.

P. tragium Vill. subsp. *pseudotragium* (DC.) Matthews

Şuhut, Başören village, streamsides, 1400 m, 25 vii 1996, E.Akçiçek 3082.

Ir.-Tur., H.

Oenanthe aquatica (L.) Poir.

Sincanlı, Akören village, meadows, 1000 m, 24 vi 2000, E.Akçiçek 2708.

G.

Conium maculatum L.

Sincanlı, Akören village, meadows, 1000 m, 24 vi 2000, E.Akçiçek 2722.

Th.

Bupleurum rotundifolium L.

Dinar, Denizli and Afyon crossroads, field margins, 960 m, 16 v 1999, E.Akçiçek 2382.

Th.

B. heldreichii Boiss. & Bal.

Dinar, Denizli and Afyon crossroads, fallow fields, 960 m, 14 vi 1998, E.Akçiçek 2081.

Endemic-LC, Ir.-Tur., Th.

B. affine Sadler

16 km from Sandıklı to Şuhut, volcanic rocks, 1650 m, 23 ix 2000, E.Akçiçek 3258.

Th.

B. gerardii All.

Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3742.

Th.

B. falcatum L. subsp. *persicum* (Boiss.) Koso-Pol.

Şuhut, between Koçyatağı and Başarap, volcanic rocks, 1200 m, 25 vii 2000, E.Akçiçek 3062.

H.

Falcaria vulgaris Bernh.

Sandıklı, Soğucak village, steppe, 1500 m, 4 viii 1997, E.Akçiçek 1887.

H.

Cnidium silaifolium (Jacq.) Simonk.
subsp. *orientale* (Boiss.) Tutin.

Sincanlı, Taşoluk, Mandal hill, steppe,
1400 m, 13 vii 1997, E.Akçiçek 1771.

G.

Johrenia tortuosa (Fisch. & C.A.Mey.)
D.F.Chamb.

Sandıklı, Soğucak village, rocky places,
1500 m, 4 viii 1997, E.Akçiçek 1877.

H.

Ferulago aucheri Boiss.

Between Taşoluk and Şuhut, rocky places,
1400 m, 24 vi 2000, E.Akçiçek 2809.

Endemic-LC, Medit., H.

Pastinaca sativa L. subsp. *urens* (Req. ex
Godr.) Celak.

Şuhut, Ortapınar village, field margins,
1100 m, 26 vii 2000, E.Akçiçek 3181.

H.

Malabaila secacul Banks & Sol.

Sincanlı, Taşoluk, Balıkkaya hill, steppe,
1350 m, 24 vi 2000, E.Akçiçek 2773.

H.

Heracleum sphondylium L. subsp.
ternatum (Velen.) Brummitt

Şuhut, Güneytepe village, steppe, 1100
m, 25 vi 2000, E.Akçiçek 2911.

Euro-Sib., H.

Torilis japonica (Houtt.) DC.

Between Taşoluk and Şuhut, roadsides,
1200 m, 24 vi 2000, E.Akçiçek 2745.

Th.

T. ucranica Spreng.

Şuhut, Tekke village, steppe, 1200 m, 6
vii 1996, E.Akçiçek 1602.

Th.

T. leptophylla (L.) Rchb.

Sandıklı, roadsides, 1000 m, 20 v 2000,
E.Akçiçek 2676.

Th.

Caucalis platycarpus L.

Sincanlı, Taşoluk, fallow fields, 1200 m,
24 vi 2000, E.Akçiçek 2868.

Th.

Turgenia latifolia (L.) Hoffm.

Dinar, Bağcılar village, field margins,
1100 m, 14 vi 1998, E.Akçiçek 2088.

Th.

Daucus carota L.

Sandıklı, Ballık, field margins, 1000 m, 26
vi 2000, E.Akçiçek 2977.

H.

CAPRIFOLIACEAE

Sambucus ebulus L.

Şuhut, Kumalar yayla, steppe, 1800 m, 6
vii 1996, E.Akçiçek 1577.

Euro-Sib., Ch.

S. nigra L.

Şuhut, Başören village, Kıran hill, steppe,
1400 m, 13 vi 1998, E.Akçiçek 2032.

Euro-Sib., Ph.

Lonicera etrusca Santi var. *etrusca*

Sandıklı, Ballık, Kızılcıların hill, rocky places,
1350 m, 26 vi 2000, E.Akçiçek 2950.

Medit., Ph.

VALERIANACEAE

Centranthus longiflorus Stev. subsp.
longiflorus

Dinar, between Karaadilli and Tatarlı,
rocky places, 1130 m, 26 vii 2000, E.Akçiçek
3197.

Ir.-Tur., G.

Valerianella uncinata (M.Bieb.) Dufur.

Dinar, Akçaköy, steppe, 1000 m, 16 v
1999, E.Akçiçek 2332.

Ir.-Tur., Th.

V. turgida (Stev.) Betcke

Şuhut, Siner village, meadows, 1200 m,
19 v 1997, E.Akçiçek 1701.

Th.

V. pumila (L.) DC.

Between Taşoluk and Şuhut, Sarıyar hill,
rocky places, 1500 m, 24 vi 2000, E.Akçiçek
2753.

Th.

V. coronata (L.) DC.

Şuhut, Demirbel village, fallow fields,
1100 m, 19 v 2001, E.Akçiçek 3586.

Th.

V. vesicaria (L.) Moench

5 km from Sandıklı to Şuhut, Bektaş
village, fallow fields, 1150 m, 18 v 2000,
E.Akçiçek 2461.

Th.

MORINACEAE

Morina persica L. var. *persica*

Şuhut, Kumalar yayla, volcanic rocks,
1600 m, 25 vi 2000, E.Akçiçek 2921.

Ir.-Tur., H.

DIPSACACEAE

Dipsacus laciniatus L.

Sincanlı, Serban, steppe, 1200 m, 23 viii
1998, E.Akçiçek 2306.

H.

Scabiosa argentea L.

Sandıklı, Ballık, Deliklitaş hill, steppe,
1250 m, 4 viii 1997, E.Akçiçek 1882.

H.

S. micrantha Desf.

Şuhut, Demirbel village, fallow fields,
1100 m, 19 v 2001, E.Akçiçek 3588.

Th.

S. rotata M.Bieb.

Dinar, Bağcılar village, field margins,
1100 m, 14 vi 1998, E.Akçiçek 2093.

Ir.-Tur., Th.

ASTERACEAE / COMPOSITAE

Bidens tripartita L.

Sincanlı, Akören village, meadows, 1050
m, 23 ix 2000, E.Akçiçek 3287.

Th.

Xanthium spinosum L.

Şuhut, Kumalar yayla, volcanic rocks,
1800 m, 23 viii 1998, E.Akçiçek 2295.

Th.

Inula oculus-christi L.

Şuhut, Çakmaktepe pass, volcanic rocks,
1880 m, 6 vii 1996, E.Akçiçek 1566.

Euro-Sib., H.

I. britannica L.

16 km from Sandıklı to Şuhut, volcanic
rocks, 1650 m, 23 ix 2000, E.Akçiçek 3256.

Euro-Sib., H.

I. montbretiana DC.

Between Şuhut and Taşoluk, rocky places,
1400 m, 24 vi 2000, E.Akçiçek 2776.

Ir.-Tur., H.

I. heterolepis Boiss.

Sandıklı, Ballık, steppe, 1150 m, 4 viii
1997, E.Akçiçek 1864.

E. Medit., H.

- I. anatolica** Boiss.
 Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3735.
 Endemic-LC, H.
- Pulicaria dysenterica** (L.) Bernh.
 Şuhut, between Örmekuyu and Ballık, wet places, 1300 m, 24 ix 2000, E.Akçiçek 3328.
 H.
- P. vulgaris** (L.) Gaertn.
 Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1629.
 Th.
- Helichrysum plicatum** DC. subsp. **plicatum**
 Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1812.
 H.
- Logfia arvensis** (L.) Holub
 Şuhut, Başören village, stony slopes, 1500 m, 25 vi 2000, E.Akçiçek 2935.
 Th.
- Aster laevis** L.
 Şuhut, Çakırözü village, roadsides, 1200 m, 23 ix 2000, E.Akçiçek 3280.
 H:
- Conyza canadensis** (L.) Cronquist
 Sincanlı, Akören village, meadows, 1050 m, 23 ix 2000, E.Akçiçek 3290.
 Th.
- Senecio aquaticus** hill subsp. **erraticus** (Bertol.) Matthews
 Şuhut, Ortapınar village, meadows, 1100 m, 17 viii 2000, E.Akçiçek 3220.
 Euro-Sib., H.
- S. pseudo-orientalis** Schischk.
 Sincanlı, Taşoluk, steppe, 1300 m, 24 vi 2000, Akçiçek 2728.
 Ir.-Tur., H.
- S. vulgaris** L.
 Şuhut, field borders, 1100 m, 23 vi 2001, E.Akçiçek 3656.
 Th.
- S. vernalis** Waldst. & Kit.
 Şuhut, Siner village, field borders, 1200 m, 19 v 1997, E.Akçiçek 1698.
 Th.
- Tussilago farfara** L.
 Şuhut, between Örmekuyu and Ballık, wet places, 1300 m, 24 ix 2000, E.Akçiçek 3340.
 Euro-Sib., G.
 The leaves of the specimens are 8 cm broad, but this character is given as 10-20 cm in the Flora of Turkey (V: 168) (Davis, 1975).
- Anthemis cretica** L. subsp. **pontica** (Willd.) Grierson
 Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 6 vii 1996, E.Akçiçek 1665.
 H.
 The height of the specimens is up to 24 cm, but this character is given as 10-20 cm in the Flora of Turkey (V: 182-185) (Davis, 1975).
- A. cretica** L. subsp. **albida** (Boiss.) Grierson
 Şuhut, Ortapınar hill, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1920.
 H.
- A. cretica** L. subsp. **anatolica** (Boiss.) Grierson
 Between Taşoluk and Şuhut, Koçyatağı yayla, volcanic rocks, 1400 m, 19 v 2000, E.Akçiçek 2546.
 H.
- A. tinctoria** L. var. **tinctoria**
 Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 19 vii 1997, E.Akçiçek 1836.
 H.
- A. coelopoda** Boiss. var. **bourgaei** Boiss.
 Dinar, between Haydarlı and Örmekuyu, Naldöken ridge, steppe, 1400 m, 26 vi 2000, E.Akçiçek 2993.
 Th.
- A. austriaca** Jacq.
 Şuhut, Başören village, volcanic rocks, 1400 m, 6 vii 1996, E.Akçiçek 1588.
 Th.
- A. wiedemanniana** Fisch. & C.A.Mey.
 Between Taşoluk and Şuhut, Sarıyar hill, rocky places, 1400 m, 24 vi 2000, E.Akçiçek 2751.
 Endemic-LC, Th.
- Achillea wilhelmsii** C.Koch
 Dinar, Bağcılar village, field borders, 1100 m, 14 vi 1998, E.Akçiçek 2091.
 Ir.-Tur., H.
- A. phrygia** Boiss. & Bal.
 15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3562.
 Endemic-LC, Ir.-Tur., H.
- A. teretifolia** Willd.
 Sandıklı, Soğucak village, steppe, 1525 m, 4 viii 1997, E.Akçiçek 1848.
 Endemic-LC, Ir.-Tur., H.
- A. setacea** Waldst. & Kit.
 Sandıklı, Başağaç village, steppe, 1000 m, 3 viii 1996, E.Akçiçek 1646.
 Euro-Sib., H.
- A. nobilis** L. subsp. **neilreichii** (Jos. Kern.) Formánék
 Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1782.
 Euro-Sib., H.
- A. biebersteinii** Afan.
 Dinar, Akçaköy, Sarıbelen ridge, rocky places, 1000 m, 26 vi 2000, E.Akçiçek 3008.
 Ir.-Tur., H.
- Tanacetum parthenium** (L.) Sch. Bip.
 Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1792.
 H.
- Matricaria chamomilla** L. var. **recutita** (L.) Grierson
 Sandıklı, Bektaş village, Çıralık hill, volcanic rocks, 1200 m, 18 v 2000, E.Akçiçek 2478.
 Th.
- The stem and lower leaves are sparsely hairy on the specimen, but they are described as glabrous in the Flora of Turkey (V: 293-294) (Davis, 1975).
- Tripleurospermum sevanense** (Manden.) Pobed.
 Sincanlı, Akören village, meadows, 1000 m, 24 vi 2000, E.Akçiçek 2717.
 H.
- T. decipiens** (Fisch. & C.A.Mey.) Bornm.
 Şuhut, Aydın village, fallow fields, 1150 m, 19 v 2000, E.Akçiçek 2503.
 H.
- Artemisia campestris** L.
 Sandıklı, Soğucak village, steppe, 1520 m, 4 viii 1997, E.Akçiçek 1854.
 H.

- A. scoparia** Waldst. & Kit.
Between Sandıklı and Şuhut, 2000 m, 15 vii 1985, Y.Akman
H.
- A. santonicum** L.
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3396.
Euro-Sib., Ch.
- Arctium minus** (hill) Bernh. subsp. **pubens** (Bab.) Arénes
Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3151.
Euro-Sib., H.
- Onopordum anatolicum** (Boiss.) Eig
Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3149.
Endemic-LC, Ir.-Tur., H.
- O. acanthium** L.
Sandıklı, Soğucak village, steppe, 1500 m, 4 viii 1997, E.Akçiçek 1893.
H.
- Cirsium sintenisii** Freyn
Şuhut, Başören village, forest, 1600 m, 23 viii 1998, E.Akçiçek 2292.
Endemic-LC, H.
- C. lappaceum** (M.Bieb.) Fisch. subsp. **anatolicum** Petr.
14 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 25 vii 2000, E.Akçiçek 3115.
Ir.-Tur., H.
- C. vulgare** (Savi) Ten.
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1662.
H.
- C. creticum** (Lam.) d'Urv. subsp. **creticum**
Şuhut, Arızlı village, meadows, 1200 m, 29 x 2000, E.Akçiçek 3384.
E. Medit., H.
- C. alatatum** (Gmelin) Bobrov subsp. **pseudocreticum** Davis & Parris
Sincanlı, Akören village, meadows, 1050 m, 18 x 2000, E.Akçiçek 3483.
Endemic-LC, Ir.-Tur., H.
- C. libanoticum** DC. subsp. **lycaonicum** (Boiss. & Heldr.) Davis & Parris
Şuhut, Güneytepe village, field margins, 1150 m, 23 ix 2000, E.Akçiçek 3372.
Endemic-LC, E. Medit., H.
- The height of the specimens is 63 cm, but this character is given as c. 100-150 cm in the Flora of Turkey (V: 408-409) (Davis, 1975).
- C. arvense** (L.) Scop. subsp. **vestitum** (Wimm. & Grab.) Petr.
Sincanlı, Akören village, roadsides, 1000 m, 24 vi 2000, E.Akçiçek 2726.
G.
- Picnoman acarna** (L.) Cass.
Sandıklı, Örmekuyu, steppe, 1350 m, 4 viii 1997, E.Akçiçek 1850.
Medit., Th.
- Ptilostemon afer** (Jacq.) Greuter subsp. **eburneus** Greuter
12 km from Sandıklı to Şuhut, volcanic rocks, 1400 m, 25 vii 2000, E.Akçiçek 3095.
Endemic-LC, H.
- Carduus olympicus** Boiss. subsp. **hypoleucus** (Bornm.) Davis
Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3156.
Endemic-LC, Ir.-Tur., H.
- C. nutans** L. **nutans** sensu lato
Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 6 vii 1996, E.Akçiçek 1580.
H.
- C. pycnocephalus** L. subsp. **albidus** (M.Bieb.) Kazmi
Şuhut, roadsides, 1100 m, 19 v 1997, E.Akçiçek 1744.
Th.
- C. pycnocephalus** L. subsp. **arabicus** (Jacq. ex Murray) Nyman
Şuhut, between Koçyatağı and Başarap, volcanic rocks, 1200 m, 25 vii 2000, E.Akçiçek 3064.
Medit., Th.
- Jurinea consanguinea** DC.
20 km from Afyon to Şuhut, calcareous rocks, 1250 m, 23 vi 2001, E.Akçiçek 3725.
H.
- J. pontica** Hausskn. & Freyn ex Hausskn.
Dinar, between Haydarlı and Örmekuyu, Naldöken ridge, steppe, 1300 m, 26 vi 2000, E.Akçiçek 2996.
Endemic-LC, Ir.-Tur., H.
- Acroptilon repens** (L.) DC.
20 km from Afyon to Şuhut, fallow fields, 1250 m, 23 vi 2001, E.Akçiçek 3678.
Ir.-Tur., H.
- Centaurea cariensis** Boiss. subsp. **maculiceps** (O. Schwarz) Wagenitz
Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 25 vii 2000, E.Akçiçek 3117.
Endemic-LC, H.
- C. virgata** Lam.
Sandıklı, Ballık, Deliklitaş hill, steppe, 1300 m, 4 viii 1997, E.Akçiçek 1883.
H.
- C. solstitialis** L. subsp. **solstitialis**
Şuhut, Tekke village, steppe, 1200 m, 6 vii 1996, E.Akçiçek 1605.
Th.
- C. iberica** Trev. ex Spreng.
Şuhut, Başören village, steppe, 1400 m, 25 vii 2000, E.Akçiçek 3084.
Th.
- C. urvillei** DC. subsp. **stepposa** Wagenitz
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1550 m, 14 vi 1998, E.Akçiçek 2132.
Endemic-LC, Ir.-Tur., H.
- C. reuterana** Boiss. var. **reuterana**
Şuhut, Aydın village, waste places, 1150 m, 19 v 2000, E.Akçiçek 2529.
Endemic-LC, H.
- C. pichleri** Boiss. subsp. **pichleri**
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2260.
H.
- C. depressa** M.Bieb.
Sincanlı, Taşoluk, waste places, 1200 m, 24 vi 2000, E.Akçiçek 2865.
Th.
- Crupina crupinastrum** (Moris) Vis.
Dinar, Bağcılar village, roadsides, 1000 m, 14 vi 1998, E.Akçiçek 2170.
Th.
- Carthamus dentatus** Vahl
Sincanlı, Serban, steppe, 1100 m, 23 viii 1998, E.Akçiçek 2305.
Th.

- Xeranthemum annuum* L.
Sandıklı, Soğucak village, steppe, 1525 m, 4 viii 1997, E.Akçiçek 1845.
Th.
- Echinops pungens* Trautv. var. *pungens*
Sandıklı, Ballık, Deliklitaş hill, steppe, 1250 m, 4 viii 1997, E.Akçiçek 1881.
Ir.-Tur., H.
- Scolymus hispanicus* L.
Sandıklı, Ballık, steppe, 1250 m, 4 viii 1997, E.Akçiçek 1890.
Medit., H.
- Cichorium intybus* L.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2239.
H.
- Scorzonera cana* (C.A.Mey.) Hoffm. var. *jacquiniana* (W.Koch) Chamb.
15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3558.
H.
- S. eriophora* DC.
Şuhut, Başören village, stony slopes, 1450 m, 24 vi 2001, E.Akçiçek 3695.
Endemic-LC, G.
- Tragopogon longirostris* Bisch. ex Sch. Bip. var. *abbreviatus* Boiss.
10 km from Sandıklı to Şuhut, volcanic rocks, 1300 m, 18 vi 2000, E.Akçiçek 2453.
H.
- T. dubius* Scop.
Şuhut, Ortapınar village, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1910.
H.
- T. buphthalmoides* (DC.) Boiss. var. *buphthalmoides*
Sandıklı, between Ballık and Örmekuyu, Kızılcıçalın hill, rocky places, 1350 m, 26 vi 2000, E.Akçiçek 3026.
H.
- T. buphthalmoides* (DC.) Boiss. var. *latifolius* Boiss.
Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2026.
Ir.-Tur., H.
- Leontodon asperimus* (Willd.) Ball
Sandıklı, between Ballık and Örmekuyu, Kızılcıçalın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 2988.
Ir.-Tur., H.
- L. crispus* Vill. subsp. *asper* (Waldst. & Kit.) Rohlena var. *asper*
Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1815.
H.
- L. oxylepis* Boiss. & Heldr. var. *oxylepis*
Between Sandıklı and Şuhut, 2000 m, 15 vii 1985, Y.Akman
H.
- Picris hieracioides* L.
15 km from Sandıklı to Afyon, steppe, 1500 m, 23 ix 2000, E.Akçiçek 3297.
Euro-Sib., H.
- Sonchus asper* (L.) hill subsp. *glaucescens* (Jord.) Ball
Şuhut, Arızlı village, steppe, 1200 m, 29 x 2000, E.Akçiçek 3442.
H.
- Hieracium lasiochaetum* (Bornm. et Zahn) Sell et West
Sandıklı, Soğucak village, rocky places, 1500 m, 4 viii 1997, E.Akçiçek 1867.
Endemic-LC, H.
- The basal leaves are up to 45 mm broad and the capitula number up to 7 on the specimens; however, the same basal leaves are 10-33 mm broad and the capitula number 2-6 in the Flora of Turkey (V: 720) (Davis, 1975).
- H. pannosum* Boiss.
Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 25 vii 2000, E.Akçiçek 3126.
E. Medit., H.
- H. paphlagonicum* Freyn & Sint.
Şuhut, between Balçıkhisar and Yıprak, rocky places, 1560 m, 24 ix 2000, E.Akçiçek 3302.
Endemic-LC, H.
- Pilosella piloselloides* (Vill.) Soják subsp. *megalomastix* (NP.) Sell & West
Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1975.
G.
- P. x macrotricha* (Boiss.) C.H. & F.W.Schultz
10 km from Sandıklı to Şuhut, Başkaya hill, volcanic rocks, 1300 m, 25 vii 2000, E.Akçiçek 3108.
H.
- Cicerbita variabilis* (Bornm.) Bornm.
Şuhut, Anayurt village, field borders, 1100 m, 26 vii 2000, E.Akçiçek 3165.
Endemic-LC, G.
- Lactuca serriola* L.
Dinar, Tatarlı, waste places, 1100 m, 26 vii 2000, E.Akçiçek 3139.
Euro-Sib., H.
- Scariola viminea* (L.) F.W.Schmidt
Şuhut, Başören village, Kiran hill, steppe, 1700 m, 23 viii 1998, E.Akçiçek 2276.
H.
- Lapsana communis* L. subsp. *adenophora* (Boiss.) Rech. f.
Şuhut, Başören village, streamsides, 1400 m, 25 vii 2000, E.Akçiçek 3080.
Th.
- L. communis* L. subsp. *intermedia* (M.Bieb.) Hayek
Şuhut, Başören village, stony slopes, 1500 m, 24 vi 2001, E.Akçiçek 3696.
Th.
- Taraxacum bessarabicum* (Hornem.) Hand.-Mazz. subsp. *bessarabicum*
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2588.
H.
- T. serotinum* (Waldst. & Kit.) Poir.
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1628.
H.
- T. syriacum* Boiss.
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3394.
Ir.-Tur., H.
- T. scaturiginosum* G.Hagl.
Şuhut, Arızlı village, steppe, 1200 m, 29 x 2000, E.Akçiçek 3446.
H.

- Chondrilla juncea* L. var. *juncea*
16 km from Sandıklı to Şuhut, volcanic rocks, 1650 m, 23 ix 2000, E.Akçiçek 3255.
H.
- C. juncea* L. var. *acantholepis* (Boiss.) Boiss.
Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1622.
H.
- Crepis macropus* Boiss. & Heldr.
20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2001, E.Akçiçek 3670.
Endemic-LC, H.
- C. foetida* L. subsp. *foetida*
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2262.
Th.
- C. foetida* L. subsp. *rhoadifolia* (M.Bieb.) Celak.
Şuhut, Aydın village, Angitlikası hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1999.
Th.
- C. foetida* L. subsp. *commutata* (Spreng.) Babc.
Between Taşoluk and Şuhut, steppe, 1500 m, 24 vi 2000, E.Akçiçek 2828.
Th.
- C. sancta* (L.) Babc.
Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2347.
Th.
- CAMPANULACEAE**
- Campanula lyrata* Lam. subsp. *lyrata*
Şuhut, Kavaklı village, steppe, 1300 m, 6 vii 1996, E.Akçiçek 1621.
Endemic-LC, Medit., G.
- C. argaea* Boiss. & Bal.
10 km from Sandıklı to Şuhut, Başkaya hill, volcanic rocks, 1300 m, 25 vii 2000, E.Akçiçek 3107.
Endemic-LC, Ir.-Tur., H.
- C. cymbalaria* Sm.
Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2017.
E. Medit., H.
- Asyneuma limonifolium* (L.) Janch. subsp. *limonifolium*
Şuhut, Başören village, stony slopes, 1500 m, 24 vi 2001, E.Akçiçek 3705.
H.
- Legousia speculum-veneris* (L.) Chaix
Şuhut, Kavaklı village, steppe, 1300 m, 6 vii 1996, E.Akçiçek 1620.
Medit., Th.
- L. pentagonia* (L.) Thell.
Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2011.
E. Medit., Th.
- PRIMULACEAE**
- Androsace maxima* L.
Şuhut, between Balçıkhisar and Yıprak, Avlağı hill, rocky places, 1400 m, 20 v 2000, E.Akçiçek 2608.
Th.
- Lysimachia vulgaris* L.
Şuhut, Başören village, volcanic rocks, 1400 m, 6 vii 1996, E.Akçiçek 1590.
H.
- L. verticillaris* Spreng.
Between Taşoluk and Şuhut, marsh, 1200 m, 24 vi 2000, E.Akçiçek 2749.
Hyrcano-Euxine, H.
- L. atropurpurea* L.
Sincanlı, Taşoluk, meadows, 1200 m, 13 vii 1997, E.Akçiçek 1776.
E. Medit., Th.
- OLEACEAE**
- Jasminum fruticans* L.
Şuhut, Ortapınar village, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1907.
Medit., Ph.
- Fraxinus angustifolia* Vahl subsp. *angustifolia*
Şuhut, roadsides, 1100 m, 17 viii 2000, E.Akçiçek 3232.
Ph.
- Ligustrum vulgare* L.
Şuhut, Arızlı village, fallow fields, 1100 m, 29 x 2000, E.Akçiçek 3381.
Euro-Sib., Ph.
- ASCLEPIADACEAE**
- Cynanchum acutum* L. subsp. *acutum*
Şuhut, Koçyatağı village, roadsides, 1200 m, 25 vii 2000, E.Akçiçek 3146.
H.
- Vincetoxicum canescens* (Willd.) Decne. subsp. *pedunculata* Browicz
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2100.
Endemic-VU, E. Medit., H.
- V. tmoleum* Boiss.
Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2851.
Ir.-Tur., H.
- Cionura erecta* (L.) Griseb.
Şuhut, İlyaslı village, steppe, 1225 m, 23 ix 2000, E.Akçiçek 3264.
E. Medit., Ph.
- CONVOLVULACEAE**
- Convolvulus lineatus* L.
Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2834.
H.
- C. holosericeus* M.Bieb. subsp. *holosericeus*
Dinar, Akçaköy, Saribelen ridge, rocky places, 1100 m, 26 vi 2000, E.Akçiçek 3013.
H.
- C. pulvinatus* Sa'ad
Dinar, between Haydarlı and Örmekuyu, Naldöken ridge, steppe, 1300 m, 26 vi 2000, E.Akçiçek 2995.
Endemic-NT, Ir.-Tur., Ch.
- C. arvensis* L.
Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2023.
G.
- C. galaticus* Rostan ex Choisy
20 km from Afyon to Şuhut, fallow fields, 1250 m, 23 vi 2001, E.Akçiçek 3680.
Endemic-LC, Ir.-Tur., G.
- CUSCUTACEAE**
- Cuscuta campestris* Yunck.
Between Dinar and Çay, Karamık marsh, on *Alhagi pseudalhagi*, 1000 m, 29 x 2000, E.Akçiçek 3400.
Vp.

C. palaestina Boiss. subsp. **balansae** (Yunck.) Plitmann

Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, on *Daphne oleoides*, 1880 m, 25 vii 2000, E.Akçiçek 3125.

Vp.

C. epithymum (L.) L. var. **epithymum**

20 km from Afyon to Şuhut, calcareous rocks, on *Artemisia*, 1250 m, 23 vi 2001, E.Akçiçek 3674.

Vp.

C. planiflora Ten.

Sincanlı, Taşoluk, roadsides, on *Artemisia*, 1100 m, 13 vii 1997, E.Akçiçek 1757.

Vp.

BORAGINACEAE

Heliotropium europaeum L.

Şuhut, Arızlı village, steppe, 1200 m, 29 x 2000, E.Akçiçek 3437.

Th.

H. dolosum De Not.

Sandıklı, Başağaç village, roadsides, 1000 m, 3 viii 1996, E.Akçiçek 1630.

Th.

H. lasiocarpum Fisch. & C.A.Mey.

23 km from Afyon to Şuhut, fallow places, 930 m, 24 ix 2000, E.Akçiçek 3319.

Ir.-Tur., Th.

H. suaveolens M.Bieb.

Şuhut, Mahmut village, fallow places, 1100 m, 23 viii 1998, E.Akçiçek 2302.

Th.

Lappula barbata (M.Bieb.) Gürke

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2219.

Ir.-Tur., H.

L. squarrosa (Retz.) Dumort.

Şuhut, between Atlıhisar and Balçıkhisar, rocky places, 1050 m, 20 v 2000, E.Akçiçek 2656.

H.

Rochelia disperma (L.f.) C.Koch var. **disperma**

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2226.

Th.

Asperugo procumbens L.

Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1929

Euro-Sib., Th.

Myosotis ramosissima Rochel ex Schult. subsp. **ramosissima**

Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1932.

Th.

M. stricta Link ex Roem. & Schult.

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2220.

Euro-Sib., Th.

M. refracta Boiss. subsp. **refracta**

Şuhut, Arızlı village, steppe, 1120 m, 19 v 2001, E.Akçiçek 3532.

Medit., Th.

M. alpestris F.W.Schmidt subsp. **alpestris**

Şuhut, Kumalar yayla, Kocaçal hill, rocky places, 1950 m, 19 v 2000, E.Akçiçek 2552.

H.

M. lithospermifolia (Willd.) Hornem.

15 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 18 v 2000, E.Akçiçek 2426.

H.

Cynoglossum montanum L.

Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2822.

Euro-Sib., H.

Buglossoides arvensis (L.) Johnst.

20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1949.

Th.

B. incrassata (Guss.) Jonhst.

Şuhut, Kumalar yayla, steppe, 1800 m, 13 vi 1998, E.Akçiçek 2069.

Medit., Th.

Echium italicum L.

Sandıklı, Ballık, roadsides, 1060 m, 4 viii 1997, E.Akçiçek 1858.

H.

Moltkia coerulea (Willd.) Lehm.

15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3542.

Ir.-Tur., H.

M. aurea Boiss.

15 km from Afyon to Şuhut, steppe, 1100 m, 18 v 2001, E.Akçiçek 3639.

Endemic-LC, Ir.-Tur., H.

Onosma bracteosum Hausskn. & Bornm.

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2330.

Endemic-LC, Ir.-Tur., Ch.

The height of the specimens is up to 38 cm, but this character is given as 15-30 cm in the Flora of Turkey (VI: 358) (Davis, 1978).

O. tauricum Pall. ex Willd. var. **tauricum**

Dinar, Haydarlı, Uzunmusakırı hill, stony slopes, 1640 m, 13 vi 1998, E.Akçiçek 2035.

Ch.

O. aucheranum DC.

Sandıklı, Ballık, Delikitaş hill, steppe, 1250 m, 4 viii 1997, E.Akçiçek 1884.

E. Medit., H.

O. armenum DC.

Sandıklı, between Ballık and Örmekuyu, steppe, 1350 m, 26 vi 2000, E.Akçiçek 2958.

Endemic-LC, H.

Cerintho minor L. subsp. **auriculata** (Ten.) Domac

Şuhut, Ortapınar village, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1903.

H.

Anchusa leptophylla Roem. & Schult. subsp. **leptophylla**

Taşoluk to Şuhut, Koçyatağı yayla, steppe, 1300 m, 19 v 2000, E.Akçiçek 2597.

H.

A. officinalis L.

15 km from Afyon to Şuhut, steppe, 1100 m, 18 v 2001, E.Akçiçek 3632.

Euro-Sib., Ch.

A. undulata L. subsp. **hybrida** (Ten.) Cout.

Sincanlı, Taşoluk, field borders, 1200 m, 18 v 2001, E.Akçiçek 3598.

Medit., H.

The stem is up to 53 cm long and leaves up to 9 cm on the specimen, but these characters are given as 15-40 cm and 3-7 cm respectively in the Flora of Turkey (VI: 392-393) (Davis, 1978).

- A. azurea** Mill. var. *azurea*
Sincanlı, between Dadak and Serban, steppe, 1330 m, 23 ix 2000, E.Akçiçek 3357.
H.
- A. pusilla** Guşul.
Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2340.
Th.
- The leaves are up to 330 x 75 mm and calyx lobes linear-lanceolate on the specimens, but leaves are 50-200 x 6-40 mm and calyx lobes linear in the Flora of Turkey (VI: 398) (Davis, 1978).
- A. arvensis** (L.) M.Bieb. subsp. *orientalis* (L.) Nordh.
Dinar, Akçaköy, field borders, 1050 m, 2 iv 2000, E.Akçiçek 2412.
Th.
- Nonea macrosperma** Boiss. & Heldr.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2195.
Endemic-LC, Ir.-Tur., H.
- Alkanna tinctoria** (L.) Tausch subsp. *anatolica* Hub.-Mor.
10 km from Sandıklı to Şuhut, volcanic rocks, 1300 m, 18 vi 2000, E.Akçiçek 2451.
E. Medit., H.
- A. areolata** Boiss. var. *areolata*
Şuhut, Arızlı village, on shady rocks, 1120 m, 19 v 2001, E.Akçiçek 3534.
Endemic-LC, E. Medit., H.
- SOLANACEAE**
- Solanum nigrum** L. subsp. *nigrum*
Şuhut, Ortapınar village, field borders, 1100 m, 17 viii 2000, E.Akçiçek 3223.
Th.
- S. nigrum** L. subsp. *schultesii* (Opiz) Wessely
15 km from Sandıklı to Şuhut, volcanic rocks, 1600 m, 25 vii 2000, E.Akçiçek 3069.
Th.
- S. alatum** Moench
Between Dadak and Serban, steppe, 1330 m, 23 ix 2000, E.Akçiçek 3305.
Th.
- Datura stramonium** L.
Şuhut, Koçyatağı village, roadsides, 1200 m, 25 vii 2000, E.Akçiçek 3142.
Th.
- Hyoscyamus niger** L.
Şuhut, field borders, 1100 m, 19 v 1997, E.Akçiçek 1746.
H.
- SCROPHULARIACEAE**
- Verbascum armenum** Boiss. & Kotschy var. *occidentale* Hub.-Mor.
16 km from Sandıklı to Şuhut, volcanic rocks, 1650 m, 23 ix 2000, E.Akçiçek 3254.
Endemic-LC, Ir.-Tur., H.
- V. phrygium** Bornm.
14 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 25 vii 2000, E.Akçiçek 3138.
Endemic-LC, Ir.-Tur., H.
- V. krauseanum** Murb.
Sandıklı, Bektaş village, Çıralık hill, volcanic rocks, 1200 m, 18 v 2000, E.Akçiçek 2476.
Endemic-NT, Ir.-Tur., H.
- V. cappadocicum** Bornm.
Dinar, Doğanlı village, field borders, 1180 m, 24 ix 2000, E.Akçiçek 3249.
Endemic-LC, Ir.-Tur., H.
- V. tossiense** Freyn & Sint.
Şuhut, Başören village, Kıran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2028.
Endemic-LC, Ir.-Tur., H.
- V. lasianthum** Boiss. ex Benth.
Şuhut, Koçyatağı village, roadsides, 1200 m, 25 vii 2000, E.Akçiçek 3147.
H.
- V. insulare** Boiss. & Heldr.
Şuhut, Başören village, Kıran hill, rocky slopes, 1500 m, 13 vi 1998, E.Akçiçek 2054.
Endemic-LC, Ir.-Tur., H.
- The basal leaves are 28 x 13.5 cm; capsule up to 10 mm long, ovate-oblong or pyramidal-ovate on the specimens, but basal leaves are 6-20 x 2-11 cm; capsule 5-8 mm and broadly ovate in the Flora of Turkey (VI: 578-579) (Davis, 1978).
- V. cheiranthifolium** Boiss. var. *cheiranthifolium*
Şuhut, Kilimatan hill, rocky places, 2200 m, 25 vi 2000, E.Akçiçek 2907.
H.
- V. cheiranthifolium** Boiss. var. *pisidicum* (Boiss. & Heldr.) Murb.
Şuhut, Kumalar yayla, volcanic rocks, 1800 m, 25 vi 2000, E.Akçiçek 2946.
Endemic-LC, H.
- Scrophularia scopolii** [Hoppe ex] Pers. var. *scopolii*
Şuhut, Başören village, Kıran hill, volcanic rocks, 1400 m, 13 vi 1998, E.Akçiçek 2033.
H.
- S. umbrosa** Dum.
Şuhut, Başören village, streamsides, 1400 m, 25 vi 2000, E.Akçiçek 3078.
Euro-Sib., H.
- S. libanotica** Boiss. subsp. *libanotica* var. *libanotica*
Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1979.
E. Medit., H.
- S. xanthoglossa** Boiss. var. *decipiens* (Boiss. & Kotschy) Boiss.
Dinar, Haydarlı, waste places, 1250 m, 14 vi 1998, E.Akçiçek 2156.
Ir.-Tur., H.
- S. canina** L. subsp. *bicolor* (Sm.) Greuter
Şuhut, Başören village, damp places, 1500 m, 24 vi 2001, E.Akçiçek 3718.
E. Medit., H.
- S. floribunda** Boiss. & Bal.
Şuhut, Aydın village, steppe, 1200 m, 18 v 2001, E.Akçiçek 3612.
Endemic-NT, E. Medit., H.
- Chaenorhinum minus** (L.) Lange subsp. *minus*
Şuhut, Arızlı village, marsh, 1200 m, 29 x 2000, E.Akçiçek 3388.
Th.
- Linaria genistifolia** (L.) Mill. subsp. *genistifolia*
Dinar, Bağcılar village, field borders, 1100 m, 14 vi 1998, E.Akçiçek 2084.
Euro-Sib., H.

L. genistifolia (L.) Mill. subsp. *confertiflora* (Boiss.) Davis

15 km from Afyon to Şuhut, calcareous rocks, 1100 m, 18 v 2001, E.Akçiçek 3623.

Endemic-LC, Ir.-Tur., H.

L. genistifolia (L.) Mill. subsp. *linifolia* (Boiss.) Davis

Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2013.

H.

L. grandiflora Desf.

Şuhut, Arızlı village, fallow fields, 1150 m, 18 v 2001, E.Akçiçek 3565.

Ir.-Tur., H.

L. corifolia Desf.

Şuhut, Demirbel village, fallow fields, 1100 m, 19 v 2001, E.Akçiçek 3584.

Endemic-LC, Ir.-Tur., H.

L. kurdica Boiss. & Hohen. subsp. *kurdica*

Dinar, Doğanlı village, field margins, 1180 m, 24 ix 2000, E.Akçiçek 3246.

Ir.-Tur., H.

The bracts are shorter than the pedicels on the specimen, but the bracts are longer than the pedicels in the Flora of Turkey (VI: 666,667) (Davis, 1978).

Gratiola officinalis L.

Sincanlı, between Dadak and Serban, streamsides, 1330 m, 23 ix 2000, E.Akçiçek 3355.

Euro-Sib., G.

Digitalis ferruginea L. subsp. *ferruginea*

Şuhut, Kumalar yayla, volcanic rocks, 1850 m, 23 viii 1998, E.Akçiçek 2270.

Euro-Sib., G.

Veronica bozakmanii M.A.Fischer

Şuhut, Başören village, Toklu hill, 1650 m, 19 v 2000, E.Akçiçek 2501.

Ir.-Tur., Th.

V. grisebachii S.M.Walters

Şuhut, Başören village, Kiran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2021.

E.Medit., Th.

V. triphyllos L.

Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2584.

Th.

V. bornmuelleri Hausskn.

Dinar, Akçaköy, fallow fields, 900 m, 16 v 1999, E.Akçiçek 2373.

Ir.-Tur., Th.

V. polita Fr.

Dinar, Akçaköy, rocky places, 1025 m, 2 iv 2000, E.Akçiçek 2404.

Th.

V. triloba (Opiz) Kerner

Şuhut, Kumalar yayla, volcanic rocks, 1800 m, 19 v 2000, E.Akçiçek 2592.

Th.

V. hederifolia L.

Şuhut, roadsides, 1100 m, 7 iii 2001, E.Akçiçek 3509.

Th.

V. anagallis-aquatica L. subsp. *anagallis-aquatica*

Dinar, Haydarlı, fallow fields, 1250 m, 14 vi 1998, E.Akçiçek 2162.

H.

V. anagalloides Guss. subsp. *anagalloides*

Şuhut, between Örmekuyu and Ballık, 1300 m, 24 ix 2000, E.Akçiçek 3347.

Th.

V. beccabunga L. subsp. *beccabunga*

Dinar, Akçaköy, wet places, 950 m, 20 v 2000, E.Akçiçek 2632.

G.

V. caespitosa Boiss. var. *caespitosa*

Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 13 vi 1998, E.Akçiçek 2076.

Endemic-LC, E. Medit., Ch.

V. cuneifolia D. Don subsp. *cuneifolia*

Dinar, Bağcılar village, field borders, 1200 m, 14 vi 1998, E.Akçiçek 2114.

Endemic-LC, E. Medit., H.

V. multifida L.

Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1925.

Endemic-LC, Ir.-Tur., Ch.

Euphrasia pectinata Ten.

Sincanlı, Taşoluk, field borders, 1100 m, 13 vii 1997, E.Akçiçek 1760.

Euro-Sib., Th.

Parentucellia latifolia (L.) Caruel subsp. *latifolia*

Şuhut, between Taşoluk and Başarap, steppe, 1500 m, 18 v 2001, E.Akçiçek 3578.

Medit., Th.

Lathraea squamaria L.

Şuhut, damp places, 1000 m, 7 iii 2001, E.Akçiçek 3506.

Euro-Sib., Th.

OROBANCHACEAE

Phelypaea coccinea (M.Bieb.) Poir.

Dinar, between Haydarlı and Soğucak, rocky places, 1100 m, 20 v 2000, E.Akçiçek 2684.

Ir.-Tur., Vp.

Orobanche rechingeri Gilli

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2238.

Vp.

O. cernua Loeffl.

Şuhut, Ortapınar village, waste places, 1100 m, 17 viii 2000, E.Akçiçek 3228.

Vp.

O. minor Sm.

Dinar, between Haydarlı and Örmekuyu, Naldöken ridge, steppe, 1300 m, 26 vi 2000, E.Akçiçek 3004.

Vp.

O. caryophyllacea Sm.

Sandıklı, between Ballık and Örmekuyu, Kızılçalın hill, rocky places, 1350 m, 26 vi 2000, E.Akçiçek 2959.

Vp.

O. anatolica Boiss. & Reut.

Sandıklı, between Örmekuyu and Soğucak, rocky places, 1400 m, 26 vi 2000, E.Akçiçek 2966.

Vp.

ACANTHACEAE

Acanthus hirsutus Boiss.

Dinar, Haydarlı, Uzunmusakırı hill, stony places, 1640 m, 13 vi 1998, E.Akçiçek 2037.

Endemic-LC, H.

GLOBULARIACEAE

Globularia orientalis L.

Sandıklı, Ballık, steppe, 1150 m, 4 viii 1997, E.Akçiçek 1865.

Ir.-Tur., Ch.

G. trichosantha Fisch. & C.A.Mey. subsp. *trichosantha*

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2311.

Ch.

VERBENACEAE

Verbena officinalis L.

Sincanlı, Taşoluk, meadows, 1200 m, 13 vii 1997, E.Akçiçek 1777.

H.

LAMIACEAE / LABIATAE

Ajuga salicifolia (L.) Schreb.

Şuhut, Akyatak, volcanic rocks, steppe, 1300 m, 23 vi 2001, E.Akçiçek 3756.

H.

A. chamaepitys (L.) Schreb. subsp. *chia* (Schreb.) Arcang. var. *chia*

Dinar, between Haydarlı and Yıprak, 1100 m, 20 v 2000, E.Akçiçek 2619.

H.

A. chamaepitys (L.) Schreb. subsp. *palaestina* (Boiss.) Bornm.

Şuhut, Ortapınar village, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1905.

E. Medit., H.

A. chamaepitys (L.) Schreb. subsp. *mesogitana* (Boiss.) Bornm.

Şuhut, Arızlı village, steppe, 1200 m, 29 x 2000, E.Akçiçek 3433.

E. Medit., H.

Teucrium orientale L. var. *orientale*

Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1800.

Ir.-Tur., H.

T. scordium L. subsp. *scordioides* (Schreb.) Maire & Petitm.

Sandıklı, Ballık, meadows, 1150 m, 4 viii 1997, E.Akçiçek 1863.

Euro-Sib., H.

T. chamaedrys L. subsp. *lydium* O.Schwarz

Şuhut, Kavaklı village, steppe, 1300 m, 6 vii 1996, E.Akçiçek 1613.

E. Medit., Ch.

T. chamaedrys L. subsp. *syspirense* (C.Koch) Rech. f.

Sandıklı, between Ballık and Örmekuyu, Kızılcın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 3031.

Ir.-Tur., Ch.

T. polium L.

Dinar, between Karaadilli and Tatarlı, rocky places, 1130 m, 26 vii 2000, E.Akçiçek 3183.

Ch.

Scutellaria orientalis L. subsp. *pinnatifida* J.R.Edm.

Şuhut, Akyatak, steppe, 1300 m, 23 vi 2001, E.Akçiçek 3755.

Ch.

Phlomis pungens Willd. var. *hispida* Hub.-Mor.

Sandıklı, between Ballık and Örmekuyu, steppe, 1250 m, 26 vi 2000, E.Akçiçek 2954.

H.

P. armeniaca Willd.

Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1830.

Endemic-LC, Ir.-Tur., H.

P. nissolii L.

Sandıklı, Başağaç village, steppe, 1000 m, 3 viii 1996, E.Akçiçek 1660.

Endemic-LC, Ir.-Tur., H.

Lamium garganicum L. subsp. *reniforme* (Montbret & Aucher ex Benth.) R.Mill

Şuhut, Başören village, Kocaçal hill, rocky places, 1950 m, 19 v 2000, Akçiçek 2550.

H.

L. garganicum L. subsp. *laevigatum* Arcang.

Şuhut, Başören village, steppe, 1400 m, 19 v 2001, E.Akçiçek 3515.

Euxine, H.

L. amplexicaule L.

Şuhut, Siner village, field borders, 1200 m, 19 v 1997, E.Akçiçek 1697.

Euro-Sib., Th.

L. macrodon Boiss. & Huet

Dinar, Akçaköy, rocky places, 1025 m, 2 iv 2000, E.Akçiçek 2409.

Ir.-Tur., Th.

L. purpureum L. var. *purpureum*

Şuhut, field borders, 1100 m, 19 v 1997, E.Akçiçek 1740.

Euro-Sib., Th.

Wiedemannia orientalis Fisch. & C.A.Mey.

5 km from Sandıklı to Şuhut, Bektaş village, fallow fields, 1150 m, 18 v 2000, E.Akçiçek 2460.

Endemic-LC, Ir.-Tur., Th.

Ballota nigra L. subsp. *anatolica* P.H.Davis

Sincanlı, Taşoluk, field borders, 1100 m, 13 vii 1997, E.Akçiçek 1791.

Endemic-LC, Ir.-Tur., H.

Marrubium vulgare L.

20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2001, E.Akçiçek 3665.

H.

M. parviflorum Fisch. & C.A.Mey. subsp. *oligodon*

Dinar, between Karaadilli and Tatarlı, rocky places, 1130 m, 26 vii 2000, E.Akçiçek 3196.

Ir.-Tur., H.

M. parviflorum Fisch. & C.A.Mey. subsp. *parviflorum* (Boiss.) Seybold

25 km from Afyon to Şuhut, stony slopes, 1350 m, 23 vi 2001, E.Akçiçek 3753.

Endemic-LC, H.

M. trachyticum Boiss.

Şuhut, Başören village, Kilimatan hill, rocky places, 2200 m, 25 vi 2000, E.Akçiçek 2896.

Endemic-NT, Ir.-Tur., H.

M. peregrinum L.

Şuhut, Ortapınar village, field borders, 1100 m, 17 viii 2000, E.Akçiçek 3224.

Ch.

M. astracanicum Jacq. subsp. *astracanicum*

Şuhut, Kumalar yayla, steppe, 1820 m, 24 vi 2001, E.Akçiçek 3721.

Ch.

Sideritis lanata L.

Şuhut, Ortapınar village, steppe, 1100 m, 19 v 1997, E.Akçiçek 1709.

E. Medit., Th.

- S. akmanii** Z.Aytaç, M.Ekici & A.Dönmez
Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 6 vii 1996, E.Akçiçek 1577. 15 km from Sandıklı to Şuhut, Kumalar yayla, steppe, 1600 m, 25 vii 2000, E.Akçiçek 3066.
Endemic-VU, H.
The species is known only from the type collection in the study area (Duman et al., 1995). It was collected only from two given localities in the area. The habitat of the species are under threat from over grazing.
- S. galatica** Bornm.
Şuhut, Başören village, stony slopes, 1950 m, 28 x 2000, E.Akçiçek 3474.
Endemic-NT, H.
- S. libanotica** Labill. subsp. *linearis* (Benth.) Bornm.
Sandıklı, Soğucak village, rocky places, 1500 m, 4 viii 1997, E.Akçiçek 1868.
Endemic-LC, E. Medit., H.
- Stachys tmolea** Boiss.
14 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 25 vii 2000, E.Akçiçek 3132.
Endemic-LC, E. Medit., H.
- S. cretica** L. subsp. *anatolica* Rech. f.
12 km from Sandıklı to Şuhut, volcanic rocks, 1400 m, 25 vii 2000, E.Akçiçek 3097.
Endemic-LC, H.
- S. byzantina** C.Koch
Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1981.
Euro-Sib., H.
- S. iberica** M.Bieb. subsp. *iberica* var. *densipilosa* Bhattacharjee
Sincanlı, Taşoluk, Mandal hill, steppe, 1400 m, 13 vii 1997, E.Akçiçek 1767.
Endemic-LC, Ir.-Tur., H.
- S. iberica** M.Bieb. subsp. *stenostachya* (Boiss.) Rech. f.
Şuhut, Güneytepe village, steppe, 1100 m, 25 vi 2000, E.Akçiçek 2909.
Ir.-Tur., H.
- S. annua** (L.) L. subsp. *annua* var. *lycaonica* Bhattacharjee
4 km from Şuhut to Afyon, steppe, 1300 m, 18 v 2001, E.Akçiçek 3653.
Ir.-Tur., H.
- Nepeta italica** L.
Dinar, between Haydarlı and Örmekuyu, Direkli ridge, rocky places, 1200 m, 26 vi 2000, E.Akçiçek 3040.
H.
- N. nuda** L. subsp. *nuda*
Sincanlı, Taşoluk, rocky places, 1300 m, 24 vi 2000, E.Akçiçek 2739.
H.
- N. heliotropifolia** Lam. var. *heliotropifolia*
Şuhut, Ağzıkara village, fallow fields, 1150 m, 18 v 2001, E.Akçiçek 3564.
Ir.-Tur., H.
This taxon was previously reported from A9, B8 and B9 in Turkey. It is the first time this species has ever been collected from the study area. It is a distributed in the Irano-Turanian area, north-west and west Iran. It is possible that this taxon is distributed in other parts of the Turkish/Irano-Turanian region.
- Prunella vulgaris** L.
Sincanlı, Taşoluk, meadows, 1100 m, 13 vii 1997, E.Akçiçek 1774.
Euro-Sib., H.
- P. laciniata** (L.) L.
Between Taşoluk and Şuhut, wet places, 1400 m, 24 vi 2000, E.Akçiçek 2855.
Euro-Sib., H.
- Satureja cuneifolia** Ten.
Sandıklı, Soğucak village, rocky places, 1500 m, 4 viii 1997, E.Akçiçek 1874.
Medit., Ch.
- S. wiedemanniana** (Lallem.) Velen.
15 km from Sandıklı to Afyon, steppe, 1500 m, 23 ix 2000, E.Akçiçek 3296.
Endemic-LC, Ch.
- Clinopodium vulgare** L. subsp. *vulgare*
Sandıklı, between Ballık and Örmekuyu, Kızılçalın hill, rocky places, 1350 m, 26 vi 2000, E.Akçiçek 2949.
Euro-Sib., H.
- Acinos rotundifolius** Pers.
Şuhut, Siner village, road margins, 1200 m, 19 v 1997, E.Akçiçek 1706.
Th.
- Micromeria myrtifolia** Boiss. & Hohen.
Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3737.
E. Medit., Ch.
- M. cristata** (Hampe) Griseb. subsp. *phrygia* P.H.Davis
Dinar, between Haydarlı and Örmekuyu, Direkli ridge, rocky places, 1200 m, 26 vi 2000, E.Akçiçek 3051.
Endemic-LC, E. Medit., Ch.
- Thymus zygoides** Griseb. var. *zygoides*
Şuhut, Başören village, Kıran hill, volcanic rocks, 1600 m, 13 vi 1998, E.Akçiçek 2022.
E. Medit., Ch.
- T. zygoides** Griseb. var. *lycaonicus* (Čelak.) Ronniger
Sincanlı, Taşoluk, steppe, 1300 m, 24 vi 2000, E.Akçiçek 2741.
Endemic-LC, E. Medit., Ch.
- T. leucostomus** Hausskn. & Velen. var. *leucostomus*
4 km from Şuhut to Afyon, steppe, 1300 m, 18 v 2001, E.Akçiçek 3652.
Endemic-LC, Ch.
- T. thracicus** Velen. var. *longidens* (Velen.) Jalas
Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 25 vii 2000, E.Akçiçek 3121.
Ch.
- T. longicaulis** C.Presl subsp. *longicaulis* var. *subisophyllus* (Borbás) Jalas
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2103.
Ch.
- T. longicaulis** C.Presl subsp. *chaubardii* (Boiss. & Heldr. ex Rchb. f.) Jalas var. *chaubardii*
Sandıklı, Dutağacı village, volcanic areas, 1300 m, 15 vii 1985, Y.Akman 14114.
Ch.
- Mentha pulegium** L.
Sincanlı, Taşoluk, steppe, 1450 m, 28 x 2000, E.Akçiçek 3470.
H.
- M. longifolia** (L.) Huds. subsp. *typhoides* (Briq.) Harley var. *typhoides*
Sincanlı, Taşoluk, field margins, 1100 m, 13 vii 1997, E.Akçiçek 1786.
H.

- M. spicata* L. subsp. *spicata*
Şuhut, Başören village, streamsides, 1400 m, 25 vii 2000, E.Akçiçek 3074.
H.
- M. spicata* L. subsp. *tomentosa* (Briq.) Harley
Şuhut, between Örmekuyu and Ballık, wet places, 1300 m, 24 ix 2000, E.Akçiçek 3342.
H.
- Ziziphora tenuior* L.
Şuhut, Akyatak, volcanic areas, 1300 m, 23 vi 2001, E.Akçiçek 3757.
Ir.-Tur., Th.
- Salvia tomentosa* Mill.
Dinar, Haydarlı, waste places, 1250 m, 14 vi 1998, E.Akçiçek 2149.
Medit., Ch.
- S. bracteata* Banks & Sol.
25 km from Afyon to Şuhut, stony slopes, 1350 m, 23 vi 2001, E.Akçiçek 3745.
H.
- S. cadmica* Boiss.
Dinar, between Haydarlı and Soğucak, Naldöken ridge, rocky places, 1400 m, 20 v 2000, E.Akçiçek 2603.
Endemic-LC, H.
- S. cryptantha* Montbret & Aucher ex Benth.
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1952.
Endemic-LC, Ir.-Tur., H.
- S. syriaca* L.
Dinar, Bağcılar village, roadsides, 1100 m, 14 vi 1998, E.Akçiçek 2089.
Ir.-Tur., G.
- S. sclarea* L.
Şuhut, Güneytepe village, steppe, 1100 m, 25 vi 2000, E.Akçiçek 2910.
H.
- S. aethiopsis* L.
Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2171.
H.
- S. frigida* Boiss.
Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 13 vi 1998, E.Akçiçek 2071.
Ir.-Tur., H.
- S. candidissima* Vahl subsp. *occidentalis* Hedge
20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2002, E.Akçiçek 3669.
H.
- S. cyanescens* Boiss. & Bal.
Dinar, between Karaadilli and Tatarlı, rocky places, 1130 m, 26 vii 2000, E.Akçiçek 3188.
Endemic-LC, Ir.-Tur., H.
- S. virgata* Jacq.
Şuhut, Güneytepe village, steppe, 1100 m, 25 vi 2000, E.Akçiçek 2918.
Ir.-Tur., H.
- S. dichroantha* Stapf
Sandıklı, Soğucak village, steppe, 1525 m, 4 viii 1997, E.Akçiçek 1847.
Endemic-LC, Ir.-Tur., H.
- S. verticillata* L. subsp. *amasiaca* (Freynt & Bornm.) Bornm.
Şuhut, Başören village, volcanic areas, 1400 m, 6 vii 1996, E.Akçiçek 1595.
Ir.-Tur., H.
- The petiol is sessile on the specimen, but it is 2-4.5 cm long in the Flora of Turkey (VII: 456-457) (Davis, 1982)
- PLUMBAGINACEAE**
- Plumbago europaea* L.
Sandıklı, Başağaç village, roadsides, 1100 m, 3 viii 1996, E.Akçiçek 1623.
Euro-Sib., H.
- Acantholimon acerosum* (Willd.) Boiss. var. *acerosum*
Sandıklı, Örmekuyu, steppe, 1450 m, 4 viii 1997, E.Akçiçek 1851.
Ir.-Tur., Ch.
- A. glumaceum* (Jaub. & Spach) Boiss.
10 km from Sandıklı to Şuhut, Başkaya hill, volcanic areas, 1300 m, 25 vii 2000, E.Akçiçek 3102.
Ir.-Tur., Ch.
- A. caesareum* Boiss. & Bal.
14 km from Sandıklı to Şuhut, volcanic rocks, 1550 m, 25 vii 2000, E.Akçiçek 3130.
Endemic-LC, Ir.-Tur., Ch.
- A. puberulum* Boiss. & Bal. var. *puberulum*
Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 23 viii 1998, E.Akçiçek 2284.
Ir.-Tur., Ch.
- A. puberulum* Boiss. & Bal. var. *longiscapum* Bokhari
Şuhut, Başören yayla, Kıran hill, volcanic areas, 1700 m, 23 viii 1998, E.Akçiçek 2278.
Endemic-VU, Ch.
- A. ulicinum* (Willd. ex Schult.) Boiss. subsp. *ulicinum* var. *ulicinum*
Şuhut, Başören village, Çakmaktepe pass, volcanic areas, 1880 m, 6 vii 1996, E.Akçiçek 1553.
E. Medit., Ch.
- PLANTAGINACEAE**
- Plantago major* L. subsp. *major*
Şuhut, Başören village, streamsides, 1400 m, 25 vii 2000, E.Akçiçek 3075.
H.
- P. major* L. subsp. *intermedia* (Gilib.) Lange
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3480.
H.
- P. holosteam* Scop.
Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1804.
Medit., H.
- P. lanceolata* L.
Dinar, Haydarlı, waste places, 1250 m, 14 vi 1998, E.Akçiçek 2163.
H.
- THYMELAEACEAE**
- Daphne oleoides* Schreb. subsp. *oleoides*
Şuhut, Başören village, Çakmaktepe pass, volcanic areas, steppe, 1880 m, 6 vii 1996, E.Akçiçek 1573.
Ch.
- Thymelaea passerina* (L.) Coss. & Germ.
Sandıklı, Dutağacı village, volcanic areas, 1300 m, 15 vii 1985, Y.Akman
Th.

ELAEAGNACEAE

Elaeagnus angustifolia L.

Dinar, Akçaköy, field margins, 900 m, 16 v 1999, E.Akçiçek 2339.

Ph.

LORANTHACEAE

Viscum album L. subsp. *album*

Şuhut, İlyaslı village, steppe, 1500 m, 25 vi 2000, E.Akçiçek 2875.

Vp.

ARISTOLOCHACEAE

Aristolochia maurorum L.

Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2095.

Ir.-Tur., H.

EUPHORBIACEAE

Andrachne telephioides L.

20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2001, E.Akçiçek 3722.

H.

Chrozophora tinctoria (L.) Raf.

23 km from Afyon to Şuhut, fallow fields, 930 m, 24 ix 2000, E.Akçiçek 3321.

Th.

Mercurialis annua L.

Şuhut, Ortapınar village, fallow fields, 1100 m, 17 viii 2000, E.Akçiçek 3230.

Th.

Euphorbia stricta L.

Sincanlı, Taşoluk, Mandal hill, steppe, 1300 m, 13 vii 1997, E.Akçiçek 1789.

Euro.-Sib., Th.

E. rhabdotosperma Radcl.-Sm.

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2112.

Ir.-Tur., H.

E. helioscopia L.

Şuhut, Sinerköy, field margins, 1200m, 19 v 1997, E.Akçiçek 1699.

Th.

E. aleppica L.

Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2092.

Th.

E. herniariifolia Willd. var. *herniariifolia*

Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1600 m, 14 vi 1998, E.Akçiçek 2134.

H.

E. anacampseros Boiss. var. *anacampseros*

Sandıklı, Başağaç village, steppe, 1000 m, 3 viii 1996, E.Akçiçek 1626.

Endemic-LC, H.

E. macroclada Boiss.

Sandıklı, Ballık, Deliklitaş hill, steppe, 1300 m, 4 viii 1997, E.Akçiçek 1880.

Ir.-Tur., H.

E. sequieriana Neck. subsp. *sequieriana*

Şuhut, Tekke village, steppe, 1200 m, 6 vii 1996, E.Akçiçek 1604.

Euro.-Sib., H.

E. kotschyana Fenzl

Sandıklı, Soğucak village, steppe, 1525 m, 4 viii 1997, E.Akçiçek 1843.

E. Medit., H.

URTICACEAE

Urtica urens L.

Şuhut, Ortapınar village, field margins, 1100 m, 17 viii 2000, E.Akçiçek 3231.

Th.

U. dioica L.

Şuhut, Kumalar yayla, steppe, 1800 m, 6 vii 1996, E.Akçiçek 1570.

Euro.-Sib., H.

Parietaria judaica L.

Şuhut, Arızlı village, rock crevices, 1220 m, 19 v 2001, E.Akçiçek 3528.

H.

MORACEAE

Ficus carica L. subsp. *carica*

Şuhut, İlyaslı village, steppe, 1225 m, 23 ix 2000, E.Akçiçek 3263.

Ph.

ULMACEAE

Ulmus glabra Huds.

Sincanlı, Taşoluk, field margins, 1200 m, 18 v 2001, E.Akçiçek 3605.

Euro.-Sib., Ph.

U. minor Mill. subsp. *minor*

Sincanlı, Taşoluk, field margins, 1200 m, 24 vi 2000, E.Akçiçek 2837.

Ph.

The leaves are glandular on both surfaces on the specimen, but they are glandular only on the underside in the Flora of Turkey (VII: 647) (Davis, 1982).

Celtis tournefortii Lam.

Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3734.

Ph.

JUGLANDACEAE

Juglans regia L.

Şuhut, Aydın village, field margins, 1150 m, 19 v 2000, E.Akçiçek 2514.

Ph.

PLATANACEAE

Platanus orientalis L.

Şuhut, Arızlı village, wet places, 1120 m, 19 v 2001, E.Akçiçek 3579.

Ph.

FAGACEAE

Castanea sativa Mill.

Şuhut, Kavaklı village, wet places, 1300 m, 13 vi 1998, E.Akçiçek 1962.

Euro.-Sib., Ph.

Quercus vulcanica [Boiss. & Heldr. ex] Kotschy

Şuhut, Başören village, forest, 1600 m, 23 viii 1998, E.Akçiçek 2291.

Endemic-NT, E. Medit., Ph.

Q. pubescens Willd.

Şuhut, Aydın village, forest, 1150 m, 19 v 2000, E.Akçiçek 2510.

Ph.

Q. cerris L. var. *cerris*

Sincanlı, Serban, forest, 1200 m, 23 viii 1998, E.Akçiçek 2271.

Medit., Ph.

SALICACEAE

Salix alba L.

Sandıklı, Başağaç village, streamsides, 1000 m, 3 viii 1996, E.Akçiçek 1658.

Euro.-Sib., Ph.

- Populus alba* L.
Sandıklı, roadsides, 1100 m, 28 x 2000, E.Akçiçek 3449.
Euro-Sib., Ph.
- P. tremula* L.
Sincanlı, Taşoluk, wet places, 1450 m, 28 x 2000, E.Akçiçek 3465.
Euro-Sib., Ph.
- RUBIACEAE**
- Putoria calabrica* (L. f.) DC.
Dinar, Akçaköy, Saribelen ridge, on rocks, 1100 m, 26 vi 2000, E.Akçiçek 3012.
Medit., Ch.
- Asperula lilaciflora* Boiss. subsp. *phrygia* (Bornm.) Schönbr.-Tem.
Sandıklı, between Ballık and Örmekuyu, Kızılcıalın hill, rocky places, 1350 m, 26 vi 2000, E.Akçiçek 3020.
Endemic-LC, Ch.
- A. arvensis* L.
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 2998, E.Akçiçek 1950.
Medit., Th.
- Galium verum* L. subsp. *verum*
Sandıklı, Ballık, field margins, 1100 m, 26 vi 2000, E.Akçiçek 2978.
Euro-Sib., H.
- G. asparagifolium* Boiss. & Heldr.
Sandıklı, Dutağacı village, volcanic areas, 1300 m, 15 vii 1985, Y.Akman.
E. Medit., H.
- G. incanum* Sm. subsp. *elatius* (Boiss.) Ehrend.
Şuhut, Arızlı village, rocky places, 1120 m, 19 v 2001, E.Akçiçek 3519.
Ir.-Tur., Ch.
- G. dumosum* Boiss.
Şuhut, Arızlı village, rocky places, 1120 m, 19 v 2001, E.Akçiçek 3527.
Endemic-LC, Ch.
- G. spurium* L. subsp. *spurium*
Sandıklı, roadsides, 1000 m, 20 v 2000, E.Akçiçek 2674.
Euro-Sib., Th.
- G. tricornutum* Dandy
Dinar, Çay and Denizli crossroads, fallow fields, 960 m, 19 v 1999, E.Akçiçek 2352.
Medit., Th.
- G. floribundum* Sm. subsp. *floribundum*
Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3741.
Th.
- Cruciata taurica* (Pall. ex Willd.) Ehrend.
Şuhut, Ortapınar village, Kocatepe, steppe, 1100 m, 20 v 1998, E.Akçiçek 1906.
Ir.-Tur., H.
- C. pedemontana* (Bellardi) Ehrend.
Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2819.
Th.
- C. articulata* (L.) Ehrend.
Between Taşoluk and Şuhut, Koçyatağı Yayla, volcanic areas, 1400 m, 19 v 2000, E.Akçiçek 2548.
Ir.-Tur., Th.
- Rubia tinctorum* L.
Şuhut, Anayurt village, field margins, 1100 m, 26 vii 2000, E.Akçiçek 3211.
Ir.-Tur., H.
- MONOCOTYLEDONES**
- BUTOMACEAE**
- Butomus umbellatus* L.
Sincanlı, Akören village, marsh, 1000 m, 24 vi 2000, E.Akçiçek 2701.
Euro-Sib., G.
- ALISMATACEAE**
- Alisma lanceolatum* With.
Between Taşoluk and Şuhut, marsh, 1200 m, 24 vi 2000, E.Akçiçek 2746.
G.
- JUNCAGINACEAE**
- Triglochin palustris* L.
Şuhut, Arızlı village, wet places, 1200 m, 29 x 2000, E.Akçiçek 3440.
G.
- ARACEAE**
- Arum maculatum* L.
Dinar, Akçaköy, rocky places, 1025 m, 2 iv 2000, E.Akçiçek 2401.
G.
- A. elongatum* Steven subsp. *elongatum*
Şuhut, Kumalar yayla, volcanic rocks, 1800 m, 19 v 2000, E.Akçiçek 2594.
Ir.-Tur., G.
- LEMNACEAE**
- Lemna minor* L.
Between Taşoluk and Şuhut, water, 1200 m, 24 vi 2000, E.Akçiçek 2774.
Hd.
- LILIACEAE**
- Asphodeline taurica* (Pall.) Kunth
15 km from Afyon to Şuhut, stony places, 1100 m, 18 v 2001, E.Akçiçek 3543.
E. Medit., G.
- Allium cepa* L.
Sincanlı, Taşoluk, waste places, 1200 m, 24 vi 2000, E.Akçiçek 2867.
G.
- A. paniculatum* L. subsp. *paniculatum*
Şuhut, Başören village, rocky slopes, 1950 m, 28 x 2000, E.Akçiçek 3475.
Medit., G.
- A. pseudoflavum* Vved.
Dinar, Akçaköy, Saribelen ridge, rocky places, 1100 m, 26 vii 2000, E.Akçiçek 3175.
Ir.-Tur., G.
- A. phrygium* Boiss.
Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3740.
Endemic-LC, Ir.-Tur., G.
- A. atroviolaceum* Boiss.
20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2001, E.Akçiçek 3664.
G.
- A. scorodoprasum* L. subsp. *rotundum* (L.) Stearn
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2102.
Medit., G.
- A. vineale* L.
Şuhut, Tekke village, steppe, 1200 m, 6 vii 1996, E.Akçiçek 1606.
G.
- Scilla bifolia* L.
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2578.
G.

- Ornithogalum narbonense** L.
Dinar, Bağcılar village, field margins, 1100 m, 14 vi 1998, E.Akçiçek 2096.
Medit., G.
- O. oligophyllum** E.D.Clarke
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2576.
G.
- O. montanum** Cirillo
Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2323.
E. Medit., G.
- O. ulophyllum** Hand.-Mazz.
Şuhut, Aydın village, waste places, 1150 m, 19 v 2000, E.Akçiçek 2519.
G.
The leaves are 2 mm broad on the specimen, but they are (5-) 7-9 mm broad in the Flora of Turkey (VIII: 237-238) (Davis, 1984).
- O. armeniacum** Baker
Sandıklı, Bektaş village, Çıralık hill, volcanic rocks, 1200 m, 18 v 2000, E.Akçiçek 2473.
E. Medit., G.
- Muscari comosum** (L.) Mill.
Sincanlı, Taşoluk, fallow fields, 1200 m, 24 vi 2000, E.Akçiçek 2866.
Medit., G.
- M. tenuiflorum** Tausch
Şuhut, Başören yayla, steppe, 1600 m, 25 vi 2000, E.Akçiçek 2892.
G.
- M. armeniacum** Leichtlin ex Baker
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 1947.
G.
- M. neglectum** Guss.
Şuhut, between Ortapınar and Sinerköy, stony places, 1100 m, 19 v 1997, E.Akçiçek 1683.
G.
- Bellevalia tauri** Feinbrun
Dinar, Akçaköy, waste places, 900 m, 16 v 1999, E.Akçiçek 2353.
Endemic-LC, E. Medit., G.
The pedicels are longer than the perianth on the specimen, but they are as long as the perianth in the Flora of Turkey (VIII: 268) (Davis, 1984).
- Hyacinthella lineata** (Steud.) Chouard
Dinar, Akçaköy, rocky places, 1025 m, 2 iv 2000, E.Akçiçek 2401.
Endemic-LC, E. Medit., G.
- H. acutiloba** K.M.Perss. & Wendelbo
Dinar, Akçaköy, rocky places, 1025 m, 2 iv 2000, E.Akçiçek 2402.
Endemic-LC, Ir-Tur., G.
- Tulipa orphanidea** Boiss. ex Heldr.
Şuhut, Başören village, steppe, 1400 m, 19 v 2001, E.Akçiçek 3514.
E. Medit., G.
- Gagea granatellii** (Parl.) Parl.
10 km from Şuhut to Afyon, steppe, 1300 m, 2 iv 2000, E.Akçiçek 2397.
Medit., G.
The basal leaves are 4 in number and up to 18 cm long on the specimen, but they are 2 in number and 6-16 cm long respectively in the Flora of Turkey (VIII: 325-326) (Davis, 1984).
- Colchicum burttii** Meikle
10 km from Şuhut to Afyon, steppe, 1300 m, 2 iv 2000, E.Akçiçek 2396.
Endemic-LC, E. Medit., G.
- IRIDACEAE**
- Crocus biflorus** Mill. subsp. **isauricus** (Siehe ex Bowles) B.Mathew
Sincanlı, Taşoluk, fallow fields, 1200 m, 2 iv 2000, E.Akçiçek 2398.
Endemic-LC, E. Medit., G.
- C. biflorus** Mill. subsp. **tauri** (Maw) B.Mathew
Şuhut, Başören village, Toklu hill, steppe, 1650 m, 19 v 2000, E.Akçiçek 2577.
Ir.-Tur., G.
The leaves are 3 in number on the specimens, but they are given as 4-9 in number in the Flora of Turkey (VIII: 421-424) (Davis, 1984).
- C. olivieri** Gay subsp. **olivieri**
10 km from Şuhut to Afyon, steppe, 1300 m, 2 iv 2000, E.Akçiçek 2395.
G.
- C. pallasii** Goldb. subsp. **pallasii**
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3392.
G.
- Gladiolus anatolicus** (Boiss.) Stapf
4 km from Şuhut to Afyon, steppe, 1300 m, 18 v 2001, E.Akçiçek 3647.
VU, E. Medit., G.
- G. atroviolaceus** Boiss.
Sandıklı, Haydarlı, marsh, 1640 m, 13 vi 1998, E.Akçiçek 2038.
Ir.-Tur., G.
- SPARGANIACEAE**
- Sparganium erectum** L. subsp. **erectum**
Sincanlı, Akören village, marsh, 1050 m, 23 ix 2000, E.Akçiçek 3292.
Euro-Sib., G.
- TYPHACEAE**
- Typha latifolia** L.
20 km from Sandıklı to Afyon, marsh, 1150 m, 26 vii 2000, E.Akçiçek 3189.
Hd.
The lamina is up to 20 mm broad on the specimen, but it is described as 6-16 mm broad in the Flora of Turkey (VIII: 559-560) (Davis, 1984).
- T. angustifolia** L.
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3479.
Hd.
- T. domingensis** Pers.
Şuhut, Güneytepe village, marsh, 1150 m, 23 ix 2000, E.Akçiçek 3370.
Hd.
- JUNCACEAE**
- Juncus inflexus** L.
15 km from Sandıklı to Afyon, marsh, 1050 m, 23 ix 2000, E.Akçiçek 3293.
G.
- J. effusus** L.
Between Taşoluk and Şuhut, spring margins, 1400 m, 24 vi 2001, E.Akçiçek 2806.
G.

- J. articulatus* L.
Between Taşoluk and Akyatak, spring margins, 1500 m, 23 vi 2001, E.Akçiçek 3659.
Euro.-Sib., G.
- CYPERACEAE**
- Eleocharis palustris* (L.) Roem. & Schult.
Sincanlı, Akören village, marsh, 1000 m, 24 vi 2000, E.Akçiçek 2706.
G.
- E. mitracarpa* Steud.
Dinar, Haydarlı, spring margins, 1500 m, 14 vi 1998, E.Akçiçek 2108.
G.
- Schoenoplectus lacustris* (L.) Palla subsp. *lacustris*
Sincanlı, Akören village, marsh, 1050 m, 28 x 2000, E.Akçiçek 3483.
Hd.
- S. litoralis* (Schrad.) Palla
Sincanlı, Akören village, marsh, 1000 m, 24 vi 2000, E.Akçiçek 2702.
Hd.
- Bolboschoenus maritimus* (L.) Palla var. *maritimus*
Sincanlı, Akören village, marsh, 1000 m, 24 vi 2000, E.Akçiçek 2703.
G.
- Scirpoides holoschoenus* (L.) Soják
Şuhut, Anayurt village, meadows, 1200 m, 24 ix 2000, E.Akçiçek 3367.
G.
- Carex spicata* Huds.
Dinar, Haydarlı, damp places, 1500 m, 14 vi 1998, E.Akçiçek 2201.
Euro.-Sib., G.
- C. divulsa* Stokes subsp. *leersii* (Kneuck.) W.Koch.
Sincanlı, Taşoluk, meadows, 1450 m, 28 x 2000, E.Akçiçek 3466.
Euro.-Sib., G.
- C. flacca* Schreb. subsp. *serrulata* (Biv.) Greuter
Şuhut, Arızlı village, meadows, 1200 m, 29 x 2000, E.Akçiçek 3416.
Medit., G.
- C. distans* L.
Dinar, Haydarlı, meadows, 1500 m, 14 vi 1998, E.Akçiçek 2200.
Euro.-Sib., G.
- POACEAE / GRAMINEAE**
- Elymus panormitanus* (Parl.) Tzvelev
Dinar, Haydarlı, Uzunmusakırı hill, steppe, 1550 m, 14 vi 1998, E.Akçiçek 2146.
Medit., H.
- E. lazicus* (Boiss.) Melderis subsp. *divaricatus* (Boiss. & Bal.) Melderis
Şuhut, Arızlı village, steppe, 1120 m, 19 v 2001, E.Akçiçek 3530.
Endemic-LC, Ir.-Tur., G.
- E. elongatus* (Host) Runemark subsp. *ponticus* (Podp.) Melderis
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3398.
H.
- E. repens* (L.) Gould subsp. *elongatiformis* (Drobow) Melderis
Şuhut, Anayurt village, steppe, 1100 m, 26 vii 2000, E.Akçiçek 3163.
Ir.-Tur., G.
- E. hispidus* (Opiz) Melderis subsp. *hispidus*
Şuhut, Anayurt village, field margins, 1100 m, 26 vii 2000, E.Akçiçek 3153.
G.
- E. hispidus* (Opiz) Melderis subsp. *podpyrae* (Nábělek) Melderis
Dinar, Tatarlı, roadsides, 1100 m, 26 vii 2000, E.Akçiçek 3195.
Ir.-Tur., G.
- E. hispidus* (Opiz) Melderis subsp. *barbulatus* (Schur) Melderis
Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3738.
G.
- Aegilops cylindrica* Host
15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3541.
Ir.-Tur., Th.
- A. umbellulata* Zhuk. subsp. *umbellulata*
Dinar, Akçaköy, steppe, 950 m, 20 v 2000, E.Akçiçek 2629.
Ir.-Tur., Th.
- A. triuncialis* L. subsp. *triuncialis*
Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3732.
Th.
- A. biuncialis* Vis.
Sandıklı, between Ballık and Örmekuyu, Kızılcın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 3021/B.
Th.
- A. columnaris* Zhuk.
Sandıklı, between Ballık and Örmekuyu, Kızılcın hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 3021/A.
Ir.-Tur., Th.
- Triticum baеoticum* Boiss. subsp. *baеoticum*
Sandıklı, Ballık, field margins, 1000 m, 26 vi 2000, E.Akçiçek 2980.
Th.
- T. baеoticum* Boiss. subsp. *thaoudar* (Reut. ex Hausskn.) Schiem.
Sandıklı, Ballık, roadsides, 1100 m, 26 vi 2000, E.Akçiçek 2970.
Th.
- Hordeum marinum* Huds. var. *marinum*
Şuhut, Aydın village, field margins, 1150 m, 19 v 2000, E.Akçiçek 2515.
Th.
- H. murinum* L. subsp. *glaucum* (Steud.) Tzvelev
Sincanlı, Taşoluk, field margins, 1100 m, 24 vi 2000, E.Akçiçek 2691.
Th.
- H. bulbosum* L.
Şuhut, Aydın village, field margins, 1200 m, 13 vi 1998, E.Akçiçek 1974.
G.
- Taeniatherum caput-medusae* (L.) Nevski subsp. *crinitum* (Schreb.) Melderis
20 km from Afyon to Şuhut, calcareous rocks, 1250 m, 23 vi 2001, E.Akçiçek 3660.
Ir.-Tur., Th.
- Bromus hordeaceus* L. subsp. *hordeaceus*
Between Taşoluk and Şuhut, steppe, 1500 m, 24 vi 2000, E.Akçiçek 2816.
Th.

- B. japonicus** Thunb. subsp. *japonicus*
Sincanlı, Taşoluk, field borders, 1100 m, 24 vi 2000, E.Akçiçek 2685.
Th.
- B. squarrosus** L.
Between Taşoluk and Şuhut, Sarıyar hill, steppe, 1500 m, 24 vi 2000, E.Akçiçek 2757.
Th.
- B. scoparius** L.
Dinar, Haydarlı, steppe, 1250 m, 14 vi 1998, E.Akçiçek 2167.
Th.
- B. danthoniae** Trin.
Şuhut, İlyaslı village yayla, steppe, 1400 m, 25 vi 2000, E.Akçiçek 2874.
Th.
The height of the specimens is up to 58 cm, but it is 25-45 cm in the Flora of Turkey (IX: 287) (Davis, 1985).
- B. tectorum** L.
Dinar, Akçaköy, steppe, 950 m, 20 v 2000, E.Akçiçek 2630.
Th.
- B. sterilis** L.
Between Şuhut and Sandıklı, field borders, 1100 m, 19 v 1997, E.Akçiçek 1742.
Th.
- B. cappadocicus** Boiss. & Bal. subsp. *cappadocicus*
Sandıklı, between Ballık and Örmekuyu, Kızılçalın hill, steppe, 1250 m, 26 vi 2000, E.Akçiçek 3027.
H.
- B. tomentellus** Boiss.
Şuhut, Kumalar yayla, steppe, 1800 m, 6 vii 1996, E.Akçiçek 1568.
Ir.-Tur., H.
- Avena sterilis** L. subsp. *ludoviciana* (Durieu) Gillet et Magne
Şuhut, Güneytepe village, steppe, 1300 m, 25 vi 2000, E.Akçiçek 2943.
Th.
- Arrhenatherum elatius** (L.) P.Beauv. ex J. & C. Presl subsp. *elatius*
Şuhut, Başören village, stony slopes, 1500 m, 24 vi 2001, E.Akçiçek 3714.
Euro-Sib., H.
- A. palaestinum** Boiss.
Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1965.
E. Medit., H.
- Koeleria nitidula** Velen.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1550 m, 14 vi 1998, E.Akçiçek 2139.
G.
- K. cristata** (L.) Pers.
Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1982.
H.
- Deschampsia flexuosa** (L.) Trin.
Between Sandıklı and Şuhut, N slope, volcanic areas, 1600 m, 15 vii 1985, Y.Akman 14100.
H.
- Calamagrostis pseudophragmites** (Haller f.) Koeler
Şuhut, between Başören and Y. İlyaslı, rocky places, 1300 m, 23 ix 2000, E.Akçiçek 3333.
Euro-Sib., G.
- Apera intermedia** Hack. apud Zederb.
Sincanlı, Taşoluk, field margins, 1100 m, 24 vi 2000, E.Akçiçek 2695.
Ir.-Tur., Th.
- Agrostis stolonifera** L.
Sincanlı, Taşoluk, steppe, 1450 m, 28 x 2000, E.Akçiçek 3468.
Euro-Sib., H.
- Polypogon viridis** (Gouan) Breistr.
Şuhut, Arızlı village, steppe, 1200 m, 29 x 2000, E.Akçiçek 3436.
Euro-Sib., H.
- P. monspeliensis** (L.) Desf.
Between Dinar and Çay, Karamık marsh, 1000 m, 29 x 2000, E.Akçiçek 3482.
Th.
- Phalaris arundinacea** L.
Sincanlı, Akören village, marsh, 1000 m, 24 vi 2000, E.Akçiçek 2709.
G.
- Alopecurus arundinaceus** Poir.
20 km from Afyon to Şuhut, steppe, 1100 m, 20 v 1998, E.Akçiçek 2259.
Euro-Sib., G.
- Phleum pratense** L.
Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1969.
Euro-Sib., H.
- P. bertolonii** DC.
Dinar, Akçaköy, Sarbelen ridge, rocky places, 1100 m, 26 vii 2000, E.Akçiçek 3170.
H.
- P. montanum** C.Koch subsp. *montanum*
Şuhut, Başören yayla, steppe, 1600 m, 25 vi 2000, E.Akçiçek 2893.
H.
- P. phleoides** (L.) Karsten
Between Taşoluk and Şuhut, steppe, 1400 m, 24 vi 2000, E.Akçiçek 2800.
Euro-Sib., H.
- P. exaratum** Hochst. ex Griseb. subsp. *exaratum*
Sincanlı, Taşoluk, Balıkkaya hill, in *Quercus*, 1200 m, 24 vi 2000, E.Akçiçek 2767.
Th.
- P. boissieri** Bornm.
Dinar, Haydarlı, Uzunmusakırı hill, rocky places, 1500 m, 14 vi 1998, E.Akçiçek 2190.
Ir.-Tur., Th.
- Festuca arundinacea** Schreb. subsp. *arundinacea*
Şuhut, Anayurt village, meadows, 1100 m, 18 viii 2000, E.Akçiçek 3236.
H.
- F. cyllenica** Boiss. & Heldr. subsp. *uluana* Markgr.-Dann.
Şuhut, Kilimatan hill, rocky slopes, 2200 m, 26 vi 2000, E.Akçiçek 2904.
Endemic-NT, Euxine, H.
- F. pinifolia** (Hack. ex Boiss.) Bornm. var. *pinifolia*
Şuhut, Başören village, Çakmaktepe pass, steppe, 1880 m, 13 vi 1998, E.Akçiçek 2064.
E. Medit., H.
- F. valesiaca** Schleich. ex Gaudin
Şuhut, Kumalar yayla, steppe, 1600 m, 14 vi 1998, E.Akçiçek 2217.
H.

F. callieri (Hack. ex St.-Yves) Markgr. apud Hayek subsp. *callieri*

Şuhut, Kilimatan hill, rocky slopes, 2200 m, 25 vi 2000, E.Akçiçek 2900.

H.

F. paphlagonica (St.-Yves) Markgr.-Dann. subsp. *paphlagonica*

Between Şuhut and Afyon, NW slope, volcanic areas, 1450 m, 15 vii 1985, Y.Akman 14102.

Euxine, H.

Lolium perenne L.

Dinar, Haydarlı, steppe, 1250 m, 14 vi 1998, E.Akçiçek 2166.

Euro-Sib., H.

L. temulentum L. var. *temulentum*

15 km from Afyon to Şuhut, roadsides, 1100 m, 18 v 2001, E.Akçiçek 3541.

Th.

Vulpia ciliata Dumort. subsp. *ciliata*

Şuhut, Aydın village, steppe, 1150 m, 19 v 2000, E.Akçiçek 2517.

Th.

Poa trivialis L.

Şuhut, Aydın village, steppe, 1150 m, 19 v 2000, E.Akçiçek 2518.

H.

P. pratensis L.

Dinar, Haydarlı, steppe, 1250 m, 14 vi 1998, E.Akçiçek 2165.

G.

P. sterilis M.Bieb.

Şuhut, Arızlı village, steppe, 1120 m, 19 v 2001, E.Akçiçek 3517.

H.

P. bulbosa L.

Şuhut, Başören village, Toklu hill, rocky places, 1650 m, 25 vi 2000, E.Akçiçek 2932.

G.

Eremopoa persica (Trin.) Roshev.

Between Taşoluk and Şuhut, rocky places, 1500 m, 24 vi 2000, E.Akçiçek 2812.

Ir.-Tur., Th.

Catabrosa aquatica (L.) P.Beauv.

Dinar, Haydarlı, marsh, 1230 m, 13 vi 1998, E.Akçiçek 2055.

G.

Dactylis glomerata L. subsp. *hispanica* (Roth) Nyman

Sincanlı, Taşoluk, field margins, 1100 m, 13 vii 1997, E.Akçiçek 1756.

G.

Cynosurus cristatus L.

Between Taşoluk and Akyatak, spring margins, 1500 m, 23 vi 2001, E.Akçiçek 3658.

Euro-Sib., H.

C. echinatus L.

Dinar, Akçaköy, steppe, 1000 m, 16 v 1999, E.Akçiçek 2367.

Medit., Th.

Briza media L.

Şuhut, Arızlı village, field margins, 1200 m, 29 x 2000, E.Akçiçek 3411.

G.

B. humilis M.Bieb.

Şuhut, Başören village, stony slopes, 1500 m, 24 vi 2001, E.Akçiçek 3711.

Th.

Echinaria capitata (L.) Desf.

15 km from Afyon to Şuhut, stony slopes, 1100 m, 18 v 2001, E.Akçiçek 3554.

Th.

Melica ciliata L. subsp. *ciliata*

Şuhut, Başören village, Çakmaktepe pass, volcanic rocks, 1880 m, 25 vii 2000, E.Akçiçek 3123.

H.

M. persica Kunth subsp. *inaequiglumis* (Boiss.) Bor

Dinar, between Karaadilli and Tatarlı, rocky places, 1130 m, 26 vii 2000, E.Akçiçek 3182.

H.

M. persica Kunth subsp. *canescens* (Regel) P.H.Davis

20 km from Afyon to Şuhut, calcareous rocks, 1300 m, 23 vi 2001, E.Akçiçek 3667.

Ir.-Tur., H.

Glyceria plicata (Fr.) Fr.

Between Taşoluk and Akyatak, spring margins, 1500 m, 23 vi 2001, E.Akçiçek 3657.

G.

Stipa holosericea Trin.

Şuhut, Aydın village, Angıtlıkaşı hill, rocky slopes, 1200 m, 13 vi 1998, E.Akçiçek 1966.

H.

S. arabica Trin. & Rupr.

Sandıklı, between Ballık and Örmekuyu, Kızılcıalin hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 3023.

Ir.-Tur., H.

S. ehrenbergiana Trin. & Rupr.

Dinar, Akçaköy, Saribelen ridge, rocky places, 1000 m, 26 vi 2000, E.Akçiçek 3015.

Ir.-Tur., H.

S. pulcherrima C.Koch subsp. *crassiculmis* (P.A.Smirn.) Tzvelev

Dinar, Akçaköy, Saribelen ridge, rocky places, 1000 m, 26 vi 2000, E.Akçiçek 3016.

H.

S. pulcherrima C.Koch subsp. *epilosa* (Martinovskë) Tzvelev

Sandıklı, between Ballık and Örmekuyu, Kızılcıalin hill, rocky places, 1250 m, 26 vi 2000, E.Akçiçek 2982.

H.

Phragmites australis (Cav.) Trin. ex Steud.

Şuhut, Güneytepe village, marsh, 1150 m, 23 ix 2000, E.Akçiçek 3371.

Euro-Sib., Hd.

Cynodon dactylon (L.) Pers. var. *villosus* Regel

Şuhut, between Başören and Y. İlyaslı, rocky slopes, 1300 m, 23 ix 2000, E.Akçiçek 3330.

G.

Echinochloa crus-galli (L.) P.Beauv.

Şuhut, Ortapınar village, field margins, 1100 m, 17 viii 2000, E.Akçiçek 3229.

Th.

Digitaria sanguinalis (L.) Scop.

Şuhut, Çakırözü village, roadsides, 1200 m, 23 ix 2000, E.Akçiçek 3281.

Th.

Spodiopogon pogonanthus (Boiss. & Bal. ex Bal.) Boiss.

Şuhut, between Balçıkhisar and Yıprak, rocky slopes, 1560 m, 24 ix 2000, E.Akçiçek 3303.

E. Medit., G.

Chrysopogon gryllus (L.) Trin. subsp. *gryllus*

Şuhut, between Koçyatağı and Dadak, volcanic rocks, 1350 m, 23 vi 2001, E.Akçiçek 3739.

H.

Bothriochloa ischaemum (L.) Keng

Sandıklı, Ballık, steppe, 1150 m, 4 viii 1997, E.Akçiçek 1859.

G.

Cultivated taxa in the study area

CUPRESSACEAE

Cupressus sempervirens L.

E.Akçiçek 3349.

Ph.

PAPAVERACEAE

Papaver somniferum L.

E.Akçiçek 2338.

Th.

BRASSICACEAE / CRUCIFERAE

Lepidium sativum L. subsp. *sativum*

E.Akçiçek 3654.

Th.

PORTULACACEAE

Portulaca oleracea L.

E.Akçiçek 1870.

Th.

SIMAROUBACEAE

Ailanthus altissima (Mill.) Swingle

E.Akçiçek 3348.

Ph.

FABACEAE / LEGUMINOSAE

Gleditsia triacanthos L.

E.Akçiçek 3382.

Ph.

Robinia pseudoacacia L.

E.Akçiçek 2974.

Ph.

Amorpha fruticosa L.

E.Akçiçek 3454.

Ph.

Phaseolus vulgaris L.

E.Akçiçek 3215.

Th.

Cicer arietinum L.

E.Akçiçek 3190.

Th.

ROSACEAE

Cerasus avium (L.) Moench

E.Akçiçek 2669.

Ph.

C. vulgaris Mill.

E.Akçiçek 2861.

Ph.

Persica vulgaris Mill.

E.Akçiçek 3216.

Ph.

Fragaria x ananassa Duchesne

E.Akçiçek 3655.

H.

Pyracantha coccinea Roem.

E.Akçiçek 3430.

Ph.

Malus sylvestris Mill. subsp. *mitis* (Wallr.) Mansf.

E.Akçiçek 2497.

Ph.

Pyrus communis L. subsp. *sativa* (DC.) Hegi

E.Akçiçek 1624.

Ph.

APIACEAE / UMBELLIFERAE

Anethum graveolens L.

E.Akçiçek 3200.

Th.

Apium graveolens L.

E.Akçiçek 3202.

H.

ASTERACEAE / COMPOSITAE

Helianthus tuberosus L.

E.Akçiçek 3276.

H.

CONVOLVULACEAE

Ipomoea purpurea (L.) Roth

Şuhut, Başören, around village, 1400 m, 23 ix 2000, E.Akçiçek 3311.

H.

SOLANACEAE

Solanum tuberosum L.

E.Akçiçek 2860.

G.

MORACEAE

Morus alba L.

Akçiçek 2668.

Ph.

M. rubra L.

Akçiçek 2287.

Ph.

SALICACEAE

Salix babylonica L.

Akçiçek 3502.

Ph.

Populus thevestina Dode

Dinar, Haydarlı, wet places, 1250 m, 14 vi 1998, Akçiçek 2154.

Ph.

POACEAE / GRAMINEAE

Triticum aestivum L.

Akçiçek 2981.

Th.

Secale cereale L. var. *cereale*

Akçiçek 2862.

H.

Hordeum distichon L.

Akçiçek 2388.

Th.

Avena sativa L.

Akçiçek 2097.

Th.

Sorghum bicolor (L.) Moench

Akçiçek 3371.

Th.

Zea mays L. subsp. *mays*

Akçiçek 3214.

Th.