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The Flora of Akçadağ (Van-Turkey)*

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Abstract: This paper describes a floristic study of Akçadağ. The research was carried out between 2000 and 2002. During the study period, 2650 vascular plant specimens were collected. After the identification of the specimens, the flora was determined to include 891 taxa (at specific and intraspecific ranks) belonging to 738 species, 328 genera, and 70 families. The distribution of *Campanula radula* Fisch. in Turkey is recorded for the first time. Thirty-five taxa were defined as new records for the B9 square. The endemism rate of the area is 7.5% based on 67 taxa. The largest families are *Asteraceae* (142 taxa), *Brassicaceae* (69 taxa), and *Fabaceae* (68 taxa). The largest genera are *Astragalus* L. (29), *Ranunculus* L. (18) and *Silene* L. (17). The phytogeographic elements represented in the study area are as follows: Irano-Turanian 316 (35.4%), Euro-Siberian 89 (9.9%), and Mediterranean 26 (2.9%). When the flora of the area is analysed according to Raunkiaer's life forms, the results are as follows: hemicryptophytes 462 (51.8%), therophytes 183 (20.5%), cryptophytes 125 (14.0%), chamaephytes 94 (10.5%), and phanerophytes 27 (3%). Descriptions of 28 species in the present study were different in terms of some characteristics from the descriptions found in the *Flora of Turkey* and in some cases different from the flora of neighbouring countries.

Key Words: Flora, Akçadağ, Van, Turkey

Akçadağ (Van-Türkiye) Florası

Özet: Akçadağ'ın florası bu çalışmada sunulmuştur. 2000-2002 yılları arasında gerçekleştirilen bu araştırma esnasında 2650 vasküler bitki örneği toplandı. Toplanan örneklerin teşhisi sonucu 738 tür, 328 cins ve 70 familyaya ait toplam 891 takson (tür ve türaltı kategoriler) belirlendi. *Campanula radula* Fisch.'in Türkiye'deki yayılışı ilk defa kaydedildi. 35 taksonun B9 karesi için yeni kayıt olduğu ortaya kondu. Alandan 67 endemik taksonun (% 7,5) yayılışı kaydedildi. En büyük üç familya; *Asteraceae* (142 takson), *Brassicaceae* (69 takson) ve *Fabaceae* (68 takson)'dir. En büyük cinsler; *Astragalus* L. (29), *Ranunculus* L. (18) ve *Silene* L. (17)'dir. Araştırma alanında fitocoğrafi elementlerin dağılımı şöyledir; İran-Turan elementi 316 (% 35,4), Avrupa-Sibirya elementi 88 (% 9,8) ve Akdeniz elementi 26 (% 2,9). Raunkiaer hayat formu kriterine göre floranın oluşturan bitkilerin hayat formu dağılımı şöyledir; hemikriptofit 461 (% 51,8), terofit 183 (% 20,5), kriptofit 125 (% 14), kamefit 94 (% 10,5) ve fanerofit 27 (% 3). Verilen türlerin 28'inde, Türkiye florası ve komşu ülke florasında verilen betimlerden farklı bazı özellikler belirlendi.

Anahtar Sözcükler: Flora, Akçadağ, Van, Türkiye

Introduction

Akçadağ is located in the north-east of Lake Van, within the borders of Van province, situated in the Irano-Turanian phytogeographical region. The area is stated to be in the B9 square according to the grid system adopted in the *Flora of Turkey* (Davis, 1965).

The research area is surrounded in the west by Erciş town, in the north-east by Babacan village, in the east-south-east by Bendimahi River, and in the south by Lake Van (Figure 1). Deliçay, Emirgezer, and Hüseyin Kom are the main streams in the study area. Lake Çiriş is located

in the north of Akçadağ at an altitude of 2400 m. Kavşabalak hill (2943 m) is the summit of the study area. The other important hills in the area are Neri (2846 m), Hacıhalit (2599 m), Ziyaret (2574 m), and Gazi Mehmet (2400 m). The altitude of the area is between 1700 and 2943 m.

Akçadağ is a volcanic structure formed by andesitic rocky during the Oligocene period (Degens & Kurtman, 1978). In the area there are 3 main soil types: limeless brown, colluvial, and alluvial soils. The area is mainly covered by the first type of soil (VGHT, 1971).

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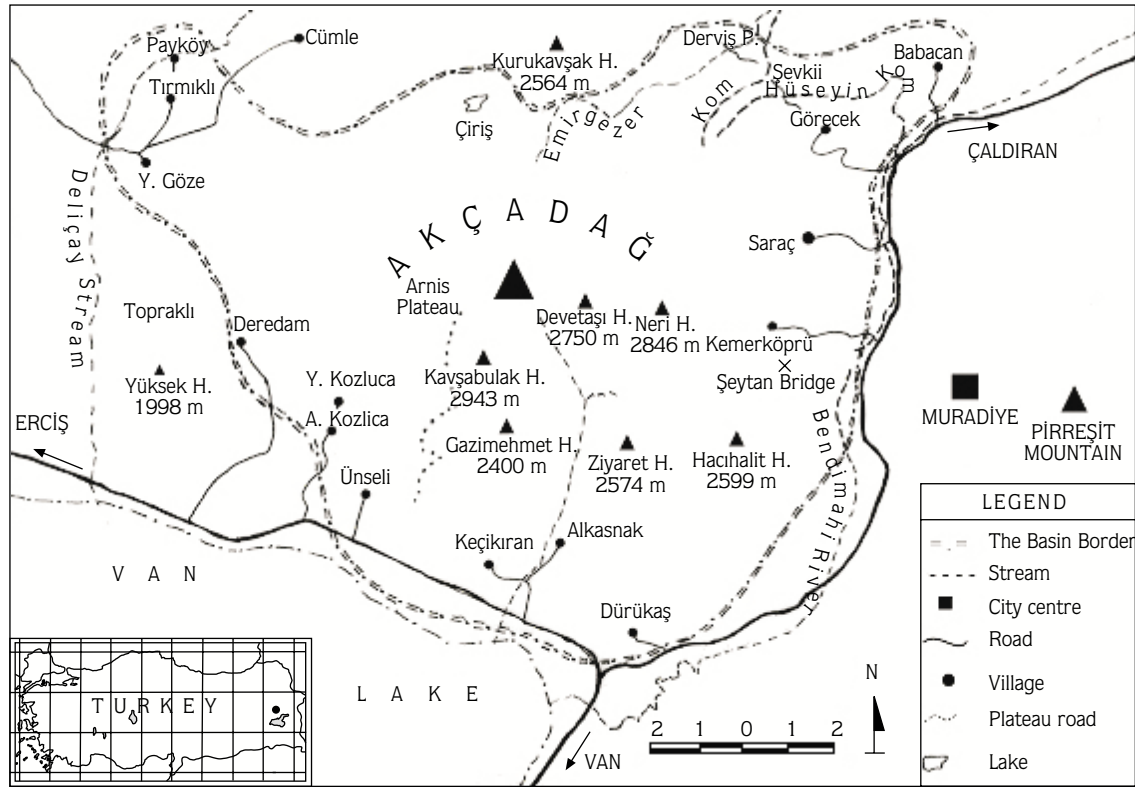


Figure 1. Geographic map of the study area.

The climate of the research area was examined using data obtained from the meteorology stations in Muradiye, Erciş, and Çaldıran (DMİGM, 2001). According to Emberger's precipitation-temperature quotient (1955), the area is described bioclimatically as a semiarid (Erciş, Muradiye) and arid (Çaldıran) glacial type of Mediterranean climate (Table 1).

The natural vegetation of Akçadağ has been markedly destroyed by anthropogenic factors such as early and extreme overgrazing and collection of plant material for

fuel. The tree community, containing *Pinus sylvestris* L., *Robinia pseudoacacia* L., *Betula pendula* Roth, and *Acer negundo* L. species, is seen in the area located 3-4 km west of Şeytan bridge and afforested by the General Directorate of State Hydraulic Works (DSİ).

Ribes orientale Desf., *Salix caprea* L., *Populus tremula* L., *Rosa canina* L., *R. montana* Chaix subsp. *woronowii* (Lonac.) O.Nilsson, *R. pulverulenta* M.Bieb., *R. heckeliana* Tratt. subsp. *vanheurckiana* (Crépin) O.Nilsson, *R. heckeliana* Tratt. subsp. *orientalis* (Dupont)

Table 1. Climatic data of the meteorological stations.

Station	h	P	M	m	Q	PE	PE/M	Precip. regime	Bioclimate
Muradiye	1706	470.6	30.4	-10.2	40.94	40.9	1.3	Sp.W.A.Sm	Semi-arid glacial
Erciş	1678	395.9	30.1	-10.3	34.63	31.1	1.0	Sp.A.W.Sm	Semi-arid glacial
Çaldıran	2000	392.2	26.3	-23.3	28.80	45.4	1.7	Sp.W.A.Sm	Arid glacial

h - altitude in m; P - mean annual precipitation in mm; M - mean temperature (°C) for the hottest month; m - mean temperature (°C) for the coldest month; Q - Emberger's pluviometric quotient: $2000 P/M^2 \cdot m^2$; PE: Summer rainfall; PE/M - Emberger's index of xericity; A - Autumn; Sp - Spring; W - Winter; Sm - Summer.

Meikle, *Amygdalus communis* L., and *Cotoneaster nummularia* Fisch. & C.A.Mey. are examples of trees and shrubs that are distributed at intervals.

The steppe formation is dominant in the area where shrubs are destroyed and became bare (almost without trees). Most of the plant cover is xerophilous grassland. Here, chamaephytes and caespitose hemicryptophytes (usually members of *Lamiaceae*, *Fabaceae*, *Plumbaginaceae*, and *Poaceae*) are dominant.

Hydrophytic vegetation is found on streamside areas such as Deliçay, Bendimahî, Sor, Hüseyin Kom, and Emirgezer streams and around Lake Çiriş in the study area. *Equisetum ramosissimum* Desf., *E. arvense* L., *Caltha polypetala* Hochst. ex Lorent, *Ranunculus trichophyllus* Chaix, *Nasturtium officinale* R.Br., *Barbarea plantaginea* DC., *B. minor* K.Koch var. *robusta* Cullen & Coode, *Cardamine tenera* C.C.Gmel., *Rumex ponticus* E.H.L.Krause, *Trifolium campestre* Schreb., *T. repens* L. var. *repens*, *T. pratense* L. var. *pratense*, *Lotus corniculatus* L. var. *corniculatus*, *Sanguisorba officinalis* L., *Lythrum salicaria* L., *Epilobium hirsutum* L., *E. roseum* Schreber subsp. *subsessile* (Boiss.) P.H.Raven, *Tripleurospermum disciforme* (C.A.Mey.) Sch.Bip., *Primula auriculata* Lam., *Pseudolysimachion longifolia* (L.) Opiz, *Alisma plantago-aquatica* L., *Juncus inflexus* L., *J. articulatus* L., *J. bufonius* L., *Eleocharis palustris* (L.) Roemer & Schultes, *Carex melanostachya* M.Bieb., *C. nigra* (L.) Reichard subsp. *dacica* (Heuff.) Soó, *Catabrosa aquatica* (L.) P.Beauv., *Phragmites australis* (Cav.) Trin ex Steudel, and *Poa trivialis* L. are commonly found in this formation.

Ephedra major Host, *Arabis caucasica* Willd. subsp. *caucasica*, *Arabis caucasica* Willd. subsp. *brevifolia* (DC.) Cullen, *Silene araratica* Schischk. subsp. *davisii* (Chrowd.) Ghazanfar, *Sedum album* L., *Rosularia radiculiflora* Boriss. subsp. *radiculiflora*, *Rosularia sempervivum* (M.Bieb.) A.Berger subsp. *kurdica* Eggli, *Sempervivum armenum* Boiss. & Huet var. *armenum*, *Campanula radula* Fisch., *Scrophularia cinerascens* Boiss., and *Parietaria judaica* L. are commonly found in the rocky parts of the research area.

Materials and Methods

The materials of the study, consisting of 2650 vascular plant specimens, were collected between 2000 and 2002. These specimens were identified basically with

the help of the *Flora of Turkey* (Davis, 1965-1985; Davis et al., 1988; Güner et al., 2000) and the other floras (Komarov & Shishkin, 1933-1964; Tutin et al., 1964-1981; Rechinger et al., 1965-1977; Townsend & Evan, 1966-1985; Zohary, 1966-1986), some revisions (Aytaç, 1997; Ekici & Ekim, 2004), and an article (Sutory, 2005).

Threatened categories are proposed for some endemic and non-endemic taxa according to IUCN risk categories (Ekim et al., 2000; IUCN, 2001). The flora of the area is analysed by Raunkiaer' life form system (Raunkiaer, 1934).

The order of plant taxa follows that of the *Flora of Turkey* (Davis, 1965-1988). The floristic list is given in the appendix. The list first gives the localities of the taxa (the area lies entirely within "B9 Van:", which is omitted from the citation), followed by habitats, altitudes, collection dates, collectors' names, numbers, life form, endemism, threat categories, and their phytogeographical regions. The authors of the plant names were checked (Brummitt & Powell, 1992). The floristic list includes cultivated plants in the area as well. Cultivated plants are indicated by an asterisk (*). The symbol (▲) in front of a plant name indicates a new record for the B9 square. All the specimens are deposited in VANF herbarium. The abbreviations used in the text and the floristic list are as follows: END.: endemic; NT: near threatened; LC: least concern; VU: vulnerable; EN: endangered; DD: data deficient E. Medit.: East Mediterranean element; Medit.: Mediterranean element; Euro-Sib.: Euro-Siberian element; Eux.: Euxin element; H. Eux.: Hyrcano-Euxin element; Ir.-Tur.: Irano-Turanian element; T: therophyte, Hk: hemicryptophyte, Kr: cryptophyte, Ka: chamaephyte, Fa: phanarophyte, E: east; N: north; S: south; W: west; OK: Osman KARABACAK; Behçet: Lütfi BEHÇET; VANF: Yüzüncü Yıl University Faculty of Art and Sciences, Department of Biology Herbarium in Van.

Discussion

At the end of the study, of the 2650 vascular plant specimens collected from the area, 738 species (891 taxa) and 328 genera belonging to 70 families were identified. Four species are non-flowering vascular plants. Three species are *Gymnosperms*, while the other 884 are *Angiosperms*. Of the *Angiosperms* 736 taxa are included in *Dicots* while 148 taxa are in *Monocots*. The distribution

of *Campanula radula* Fisch. in Turkey was first recorded in our study area (Behçet & Karabacak, 2003). The distribution of the taxa in the study is shown in Table 2.

The largest families based on their species number in the area are *Asteraceae* (142 spp.), *Brassicaceae* (69 spp.), *Fabaceae* (68 spp.), *Poaceae* (68 spp.), and *Lamiaceae* (56 spp.). In comparison with the *Flora of Turkey* (Davis et al., 1988), the order of the families is approximately the same in this study. The 10 largest families according to the number of species are shown in Table 3.

Table 2. The dispersion of taxa into the large taxonomical groups.

Plant Group	Number of families	Number of genera	Number of taxa
<i>Pteridophyta</i>	3	3	4
<i>Spermatophyta</i>	67	325	887
<i>Gymnospermae</i>	3	3	3
<i>Angiospermae</i>	64	322	884
<i>Dicotyledones</i>	53	262	736
<i>Monocotyledones</i>	11	60	148
Total	70	328	891

Table 3. Total taxa numbers of largest families found in the area.

Families	Genera	Taxa
Asteraceae	42	142 (15.9%)
Brassicaceae	30	69 (7.7%)
Fab Fabaceae	12	68 (7.6%)
Poaceae	33	68 (7.6%)
Lamiaceae	16	57 (6.3%)
Caryophyllaceae	13	51 (5.7%)
Scrophulariaceae	10	42 (4.7%)
Liliaceae	11	41 (4.6%)
Boraginaceae	17	36 (4.0%)
Rosaceae	14	32 (3.5%)
Other families	130	285 (31.9%)

The richest genera in terms of the number of taxa are *Astragalus* L. (29), *Ranunculus* L. (18), and *Silene* L. (17). The genus *Astragalus*, one of the largest genera of flowering plants, contains ca. 2500 taxa in the world and 446 taxa in Turkey (Ekici & Ekim, 2004). The reason why the genus *Astragalus* ranks first is that it is the largest genus, represented by the most species in Turkey. Furthermore, the study area is mostly steppe in character. Following *Astragalus*, the genus *Ranunculus* is represented by 18 taxa. *Ranunculus* is especially spread in humid and wet places, which are very abundant in these regions. *Silene* is also relatively widespread throughout Turkey.

The genera with the largest number of species in the research area are shown in Table 4.

The number of endemic taxa in the study area is 67 and the endemism rate is 7.5%. The rate of endemism in the area is low (7.5%), below the average in Turkey (34%) (Ekim, 2005). A total of 80 taxa, all endemics, and 13 non-endemics were evaluated according to IUCN risk categories. The results are summarised in Table 5. Forty taxa are placed in the least concern categories, with 18 taxa in the vulnerable, 16 taxa in the near threatened, 6 taxa in the endangered, and 2 taxa in the data deficient categories. Threats to the taxa in the endangered

Table 4. Taxa totals of the largest genera in the study area.

Genus	Number of taxa
<i>Astragalus</i>	29 (3.2%)
<i>Ranunculus</i>	18 (2.0%)
<i>Silene</i>	17 (1.9%)
<i>Veronica</i>	16 (1.7%)
<i>Centaurea</i>	14 (1.5%)
<i>Allium</i>	10 (1.1%)
<i>Trifolium</i>	10 (1.1%)
<i>Tanacetum</i>	10 (1.1%)
<i>Onosma</i>	9 (1.0%)
<i>Tripleurospermum</i>	9 (1.0%)

Table 5. Risk categories of endangered taxa, most of them being endemics.

Categories	LC	VU	NT	EN	DD	Total
Taxa	40	17	15	6	2	80

category are discussed under the related taxa. On the other hand, the main problems causing the taxa to be categorised in the least concern, vulnerable, and near threatened are excess collection of plant material, clearing, and over-grazing on the steppe. An updated version of the Red Data Book for the vascular plants of Turkey was published by Ekim et al. (2000). There are some disagreements among the authors about the risk categories for some taxa. This is because of considering the Turkish flora as a whole; our observations, however, are based only on the study area. Further floristic studies in Turkey would contribute more to the Red Data Book in

the future. Another reason for the disagreement is that they used the criteria of IUCN 1994. However, new criteria have been used in this paper.

The species of the study area, categorised according to phytogeographic regions, can be listed as follows: Irano-Turanian elements 316 (35.4%) (47 endemics), Euro-Siberian elements 89 (16 H.Eux., 9 Eux.) (9.9%) (4 endemics), and Mediterranean elements 26 (2.9%) (2 endemics). The remaining 460 (51.6%) taxa are cosmopolitan or of unknown phytogeographical origin (Table 6). The dominance of the Irano-Turanian elements is expected because the study area lies in the Irano-

Table 6. The comparison of the distribution of phytogeographical elements and endemism rate (%) in the study area and nearby regions (abbreviations are below the table).

Study areas	Irano-Turanian	Euro-Siberian	Mediterranean	Cosmopolitan and others	Endemism
Akçadağ	35.4	9.9	2.9	51.6	7.5
Erek Dağı	42.8	9.9	3.1	44.2	7.8
Bitlis River	31.8	4.8	8.7	54.6	6.8
Hizan	34.9	6.2	4.7	54.2	7.9
Süphan	37	8.7	2	52.3	8.5
Kurubaş	44	7	1	47	7
Toprakkale	44	4.4	4.8	46.8	4
Çakmak	33.9	20	2.6	37.2	6.5
Terc.-Bağır.	25	10.7	4.4	59.9	6.5
Munzur	45.7	8	4.4	41.9	19.9
Çiçek	12.6	29.6	1	56.8	3
Allahuekber	37	41.3	1.6	20.1	4.6
İğdir	44.4	7.7	3.5	44.4	1.4

Abbreviations:

- Akçadağ: Flora of Akçadağ
 Erek Dağı: Erek Dağı (Van) Florası Üzerinde Çalışmalar (III) (Özçelik & Babaç, 1993)
 Bitlis River: The Flora of Bitlis River Valley (Altok & Behçet, 2005)
 Hizan: Hizan (Bitlis) Florası (Altan & Behçet, 1995)
 Süphan: Süphan Dağı (Bitlis) Florası (Behçet, 1989)
 Kurubaş: Kurubaş Geçidi (Van) Florası (Öztürk & Behçet, 1998)
 Toprakkale: Toprakkale (Van) Florası (Öğün & Altan, 1992)
 Çakmak: Çakmak Dağları (Ağrı) Florası (Gümüş, 1992)
 Terc.-Bağır.: Tercan Çevresi ve Şengül (Erzincan) ve Bağır Baba (Tunceli) Dağlarının Florası (Kaya, 1996)
 Munzur: Munzur Dağları (Erzincan-Tunceli) Florası (Yıldırım, 1995)
 Çiçek: Çiçek Dağı (Posof-Kars) Florası (Demirkuş, 1994)
 Allahuekber: Allahuekber Dağları (Erzurum) Florasına Katkıları (Tatlı, 1989)
 İğdir: İğdir Ovası (İğdir) Florasına Katkıları (Tatlı & Atlan, 1987)

Turanian region. Similar results were obtained from other floristic studies in East Anatolia close to Akçadağ (Table 6). Irano-Turanian elements seems to be dominant in all areas studied while Euro-Siberian elements rank second except for in the Allahuekber Mountains (Tatlı, 1989), Bitlis River valley (Altiok & Behçet, 2005), and Toprakkale (Öğün & Altan, 1992).

The taxa can also be classified according to their life forms. Raunkiaer's life forms spectrum acts as an indicator of the climate or region (Raunkiaer, 1934; Akman & Ketenoglu, 1992). The life forms of the taxa according to Raunkiaer are represented in the area as follows: hemicryptophytes 461 (51.8%), therophytes 183 (20.5%), cryptophytes (also called geophytes) 125 (14%), chamaephytes 94 (10.5%), and phanerophytes 27 (3%).

Some morphological characters different from those given in the *Flora of Turkey* (Davis, 1965-1985) were observed in some specimens. These properties are given in Table 7.

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Table 7. Some of the taxa in the flora of Akçadağ have taxonomic properties different from those in the Flora of Turkey.

Taxa	<i>Flora of Turkey</i>	Flora of Akçadağ
<i>Ranunculus lateriflorus</i>	Achene length 2.5 mm (According to <i>Flora Europaea</i>)	Achene length to 4.5 mm
<i>Ranunculus kochii</i>	Petal length 12-20 mm	Petal length to 29 mm
<i>Fumaria microcarpa</i>	Calyx ca. 1/10 of the length of the corolla	Calyx longer than 1/4 of the length of the corolla
<i>Hesperis bicuspidata</i>	Siliquae hairy	Siliquae glabrous
<i>Erysimum alpestre</i>	Fruit length 15-25 mm	Fruit length up to 40 mm
<i>Minuartia dianthifolia</i> subsp. <i>kurdica</i>	Calyx length 2-2.5 mm	Calyx length 3-4 mm
<i>Cerastium dubium</i> (Syn: <i>C. anomalum</i>)	Leaf length 10-30 x 1-2 mm Plant eglandular hairs Sepal length 4-5 mm	Leaf length 40-55 x 3-4 mm Plant glandular hairs Sepal length 6-7 mm
<i>Sagina saginoides</i>	Plant glabrous	Plant glandular hairs
<i>Polygonum aviculare</i>	Ochreae with faint nerves	Ochreae with clear nerves
<i>Elatine alsinastrum</i>	Submerged leaves length 8-12 x 0.5 mm Submerged leaves number unknown Floating leaves number unknown	Submerged leaves length to 35 x 3.5 mm Submerged leaves number 10-18 Floating leaves number 3-5
<i>Linum meletonis</i>	Flower number (-1) 3-9	Flower number to 18
<i>Geranium ibericum</i> subsp. <i>jubatun</i>	Plant length 15-40 cm Bract length 3-7 mm Calyx length 9-11 mm	Plant length up to 65 cm Bract length 5-9 mm Calyx length 5 mm
<i>Astragalus galegiformis</i>	Stipule length 3-10 mm Fruit length 12-15 mm Leaf length 8-15 cm	Stipule length up to 16 mm Fruit length 17-19 mm Leaf length up to 23 cm
<i>A. persicus</i>	Leaflet length 10-20 mm Leaf length 3-6 cm	Leaflet length up to 53 mm Leaf length 6-9 cm

Table 7. (Continued)

<i>Lathyrus pallescens</i>	Leaflet 1-1.5 mm broad Plant length 40-60 cm	Leaflet up to 12 mm broad Plant length up to 110 cm
<i>Trifolium aureum</i>	Plant length 20-60 cm	Plant length up to 85 cm
<i>T. hybridum</i> var. <i>hybridum</i>	Calyx 7-9 mm	Calyx 3-4 mm
<i>Onobrychis sulphurea</i> var. <i>vanensis</i>	Leaf ca. 10 x 3 mm	Leaf 18-25 x 1.5-3 mm
<i>Callitriche palustris</i>	Stamen length 2 mm Fruit 0.8-1 x 0.6-0.8 mm	Stamen length 3.2 mm Fruit 2 x 1.7 mm
<i>Scabiosa rufescens</i>	Calyx setae 8-9 mm	Calyx setae 11-12 mm
<i>Tanacetum punctatum</i>	Plant length to 35 cm Basal leaf length up to 10 cm	Plant length 55-60 cm Basal leaf length 15-20 cm
<i>T. nitens</i>	Capitula number 15-30 Plant length (12) 20-50 cm	Capitula number to 60 Plant length 55-90 cm
<i>Gagea confusa</i>	Basal leaf 0.2-0.4 cm broad	Basal leaf 0.8-1.0 cm broad
<i>Merendera trigyna</i>	Leaves 0.2-0.6 cm broad Filament length 1.5-4 mm Anther length 2-3 (-4) mm	Leaves 1.7 cm broad Filament length to 9 mm Anther length to 5 mm
<i>Orchis mascula</i> subsp. <i>pinetorum</i>	Leaves 3 cm broad Leaf number 6	Leaves 5.5 cm broad Leaf number 8
<i>Elymus hispidus</i> subsp. <i>podpyrae</i> <i>Bromus arvensis</i>	Spikelets with 4-6 florets Spikelet length 12-25 mm Lemma length 7-9 mm	Spikelets with 8-9 florets Spikelet length to 32 mm Lemma length 10.5 mm
<i>Festuca pratensis</i>	Spikelets with 2-5 florets	Spikelets with to 13 florets

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APPENDIX

The Floristic List

PTERIDOPHYTA

EQUISETACEAE

Equisetum ramosissimum Desf.

Muradiye, Akçadağ, W of Ziyaret hill, humid places, 2300 m, 16 v 2001, OK 1366. Kr.

E. arvense L.

Muradiye, E of Babacan village, humid places, 2200 m, 29 v 2002, OK 3096. Kr.

ATHYRIACEAE

Cystopteris fragilis (L.) Bernh.

Muradiye, Görecek village, rocky area, 2200-2500 m, 08 vii 2001, OK 2083. Hk.

ASPIDIACEAE

Dryopteris filix-mas (L.) Schoot

Muradiye, Kemerköprü village, rocky area, 2846 m, 21 vi 2001, OK 1869. Hk.

SPERMATOPHYTA

GYMNOSPERMAE

PINACEAE

**Pinus sylvestris* L.

Muradiye, Şeytan bridge surroundings, streamside, 1750 m 27 vii 2001, OK 2538. Fa.

CUPRESSACEAE

Juniperus oxycedrus L. subsp. *oxycedrus*

Muradiye, Görecek village, Şevkii, rocky area, 2200-2500 m, 08 vii 2001, OK 2129. Ka.

EPHEDRACEAE

Ephedra major Host

Muradiye, Muradiye waterfall surroundings, rocky area, 1800 m, 12 vii 2001, OK 2283. Ka.

ANGIOSPERMAE

DICOTYLEDONES

RANUNCULACEAE

Caltha polypetala Hochst. ex Lorent

Muradiye, Babacan village, W of Derviş plateau, wet places, 2500 m, 15 vii 2002, OK 3445. Hk.

Delphinium albiflorum DC.

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, OK 2059. Hk.

D. cyphoplectrum Boiss.

Erciş, Y. Kozluca village, steppe, 2050 m, 24 vi 2001, OK 1956. Hk. END.-LC.

Adonis aestivalis L. subsp. *aestivalis*

Muradiye, Babacan village, fields, 1800 m, 28 v 2002, OK 2984. T.

A. flammea J. Jacq.

Muradiye, Akçadağ, Gazi Mehmet hill, under the jugland tree, 2200 m, 04 vi 2001, OK 1530. T.

Ranunculus trichocarpus Boiss. & Kotschy

Muradiye, Babacan village, Derviş plateau, meadow, 2400 m, 08 x 2002, OK 3608. Kr. Ir.-Tur. Det.: M. Vural.

R. crateris P.H.Davis

Muradiye, Ünseli village, Akçadağ south slopes, meadows, 2500 m, 11 vi 2001, OK 1684. Kr. Ir.-Tur. END.-NT.

R. fenzlii Boiss.

Muradiye, Görecek village, Şevkii, steppe/rocky area, 2350 m, 24 vi 2002, *OK* 3409. Hk. END.-LC. Ir.-Tur.

R. kotschyi Boiss.

Muradiye, Açıkyol village, meadow, 2000 m, 02 v 2001, *OK* 1999. Hk.

▲R. grandiflorus L.

Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3480. Hk.

R. damascenus Boiss. & Gaill.

Muradiye, Akçadağ, Ziyaret hill east slopes, steppe, 2200 m, 02 v 2001, *OK* 1203. Kr. Ir.-Tur.

R. oxyspermus Willd.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 12 v 2001, *OK* 1241. Kr.

R. cuneatus Boiss.

Muradiye, Ünseli village, meadow, 1700 m, 19 v 2002, *OK* 2961. Kr.

R. illyricus L. subsp. *illyricus*

Muradiye, Kemerköprü village, Akçadağ, Neri hill, steppe, 2550 m, 21 vi 2001, *OK* 1858. Kr.

▲R. heterorhizus Boiss. & Bal.

Muradiye, Ünseli, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vii 2001, *OK* 1514. Kr. END.-NT.

R. myosuroides Boiss. & Kotschy

Muradiye, Akçadağ, E of Hacıhalit hill, steppe, 2400 m, 26 iv 2001, *OK* 1174. Kr. Ir.-Tur.

▲R. bingoeldaghensis A.Engin

Muradiye, Muradiye waterfall surroundings, meadow, 1900 m, 05 v 2002, *OK* 2865. Erciş, Y. Göze district, slopes, 2000-2200 m, 19 v 2002, *OK* 2931. Kr. END.-EN. Ir.-Tur.

R. aucheri Boiss.

Muradiye, Açıkyol village surroundings, steppe, 2250 m, 02 v 2001, *OK* 1205. Hk.

R. arvensis L.

Muradiye, Ünseli village, S slope of Akçadağ, fields, 1800 m, 12 v 2001, *OK* 1279. T.

R. strigillosus Boiss. & Huet

Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, *OK* 2153. Hk.

R. lateriflorus DC.

Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3461. T.

R. kochii Ledeb.

Muradiye, Akçadağ, Ziyaret hill, steppe, 2000 m, 24 iii 2001, *OK* 1056. Kr. Ir.-Tur.

R. trichophyllus Chaix

Muradiye, Babacan village, Derviş plateau, Kom stream, in the water, 2400 m, 08 vii 2001, *OK* 2235. Kr.

Ceratocephalus falcatus (L.) Pers.

Muradiye, Alkasnak village, Akçadağ, W of Ziyaret hill, steppe, 1750 m, 16 v 2001, *OK* 1331. T.

C. testiculatus (Crantz) Roth

Muradiye, Görecek village surroundings, steppe, 1800 m, 05 v 2002, *OK* 2885. T.

Thalictrum isopyroides C.A.Mey.

Muradiye, Alkasnak village, steppe, 1850 m, 26 iv 2001, *OK* 1150. Hk.

T. minus L. var. *majus* (Crantz) Crépin

Muradiye, Muradiye waterfall surroundings, streamsides, 1800 m, 12 vii 2001, *OK* 2269. Hk.

T. flavum L.

Muradiye, Alkasnak village, Akçadağ, W of Ziyaret hill, steppe, 2200 m, 12 .vi 2001, *OK* 1741. Kr.

BERBERIDACEAE

Leontice leontopetalum L. subsp. *ewersmannii* (Bunge) Coode

Muradiye, Muradiye waterfall surroundings, meadow, 1900 m, 05 v 2002, *OK* 2871. Kr.

PAPAVERACEAE

Glaucium grandiflorum Boiss. & Huet var. *grandiflorum*

Muradiye, Muradiye waterfall surroundings, fields, 1800 m, 23 vi 2002, *OK* 3144. Hk. Ir.-Tur.

Roemeria hybrida (L.) DC. subsp. *hybrida*

Muradiye, Şeytan bridge surroundings, steppe, 1750 m, 29 v 2001, *OK* 1391. T.

R. refracta DC.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1522. T. Ir.-Tur.

Papaver orientale L.

Muradiye, Şeytan bridge surroundings, steppe/rocky areas, 2300 m, 29 v 2001, *OK* 1426. Hk.

P. bracteatum Lindl.

Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, *OK* 3235. Hk.

P. fugax Poir. var. *platydiscus* Cullen

Muradiye, Alkasnak village, Akçadağ, Gazi Mehmet hill, steppe, 2300 m, 16 vii 2001, *OK* 2354. Hk. END.-LC. Ir.-Tur.

P. cylindricum Cullen

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1638. Hk. Ir.-Tur.

P. macrostomum Boiss. & É.Huet ex Boiss.

Erciş, A. Kozluca district, fields, 1900 m, 24 vi 2001, *OK* 1878. T. Ir.-Tur.

P. dubium L.

Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2300 m, 28 v 2002, *OK* 3054. T.

▲P. clavatum Boiss. & Hausskn. ex Boiss.

Muradiye, Muradiye waterfall surroundings, fields, 1900 m, 23 vi 2002, *OK* 3142. T. END.-LC.

P. argemone L.

Muradiye, Ünseli vilage, Bey district, meadow, 1750 m, 12 v 2001, *OK* 1260. T.

Hypecoum pendulum L.

Muradiye, Muradiye waterfall surroundings, fields, 1900 m, 23 vi 2002, *OK* 3148. T.

Corydalis oppositifolia DC. subsp. *oppositifolia*

Muradiye, Akçadağ, Deveta?ı hill, steppe, 2250 m, 24 iii 2001, *OK* 1054. Kr.

Fumaria microcarpa Boiss. ex Hausskn.

Muradiye, Akçadağ, W of Ziyaret hill, steppe, 1800 m, 16 v 2001, *OK* 1319. T.

F. asepala Boiss.

Muradiye, Akçadağ, W of Ziyaret hill, steppe/rocky areas, 1800 m, 16 v 2001, *OK* 1320. T. Ir.-Tur.

BRASSICACEAE (CRUCIFERAE)

***Sinapis arvensis* L.**

Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, *OK* 3230. T.

Crambe orientalis* L. var. *orientalis

Muradiye, Muradiye waterfall surroundings, field, 1800 m, 23 vi 2002, *OK* 3135. Hk. Ir.-Tur.

***Conringia persica* Boiss.**

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3062. T.

***C. perfoliata* (C.A.Mey.) N.Busch**

Muradiye, E of Babacan village, steppe, 2000 m, 29 v 2002, *OK* 3092. T.

***Lepidium perfoliatum* L.**

Muradiye, Alkasnak village, Akçadağ, W of Ziyaret hill, steppe, 1750 m, 16 v 2001, *OK* 1332. T.

***L. latifolium* L.**

Muradiye, side of Lake Van, fields, 1700 m, 30 vii 2001, *OK* 2632. Hk.

Cardaria draba* (L.) Desv. subsp. *draba

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2355. Hk.

***C. draba* (L.) Desv. subsp. *chalepensis* (L.) O.E.Schulz.**

Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1839. Hk.

***Isatis steveniana* Trautv.**

Muradiye, Alkasnak village, Gazi Mehmet hill, rocky areas, 2200 m, 04 vi 2001, *OK* 1528. Hk. Ir.-Tur.

***I. undulata* Aucher ex Boiss.**

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1736. Hk. END.-EN, Ir.-Tur.

The taxon is rare and its habitat in the area is under threat of over-grazing and clearing for fields.

***I. aucheri* Boiss.**

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2000 m, 11 vi 2001, *OK* 1662. Hk. END.-LC, Ir.-Tur.

I. glauca* Aucher ex Boiss. subsp. *glauca

Muradiye, Görecek village, Şevkii, steppe/rocky areas, 2200-2500 m, 08 vii 2001, *OK* 2077. Hk. Ir.-Tur.

***I. takhtajanii* Avet.**

Muradiye, Görecek village, Şevkii, steppe/rocky areas, 2200-2500 m, 08 vii 2001, *OK* 2090. Hk. Ir.-Tur.

***Physocardamum davisii* Hedge**

Muradiye, Babacan village, Derviş plateau, Hacı cave slopes, steppe, 2400-2500 m, 08 vii 2001, *OK* 2229. Muradiye, Babacan village, Emirgezer stream slopes, steppe, 2400 m, 15 vii 2002, *Behçet* 6706. Hk. END.-VU, Ir.-Tur.

This species is a member of *Physocardamum* Hedge, which is an endemic and monotypic genus.

***Aethionema arabicum* (L.) Andr. ex DC.**

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1548. T.

***Ae. fimbriatum* Boiss.**

Muradiye, Görecek village, Şevkii, steppe/rocky areas, 2200-2500 m, 08 vii 2001, *OK* 2115. Ka. Ir.-Tur.

Ae. speciosum* Boiss. & Huet subsp. *speciosum

Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1838. Ka. Ir.-Tur. Det.: N. Adıgüzel

***Ae. trinervium* (DC.) Boiss.**

Muradiye, Şeytan bridge surroundings, steppe/rocky areas, 2300 m, 29 v 2001, *OK* 1432. Ka.

***Ae. membranaceum* DC.**

Muradiye, Between Görecek village and Derviş plateau, steppe, 2100 m, 15 vii 2002, *OK* 3536. Hk. Ir.-Tur. Det.: N. Adıgüzel

***Ae. grandiflorum* Boiss. & Hohen.**

Muradiye, E of Babacan village, steppe, 1950 m, 29 v 2002, *OK* 3098. Ka. Ir.-Tur. Det.: N. Adıgüzel

***Thlaspi arvense* L.**

Muradiye, Between Alkasnak and Dürükaş village, fields, 1750 m, 02 v 2001, *OK* 1186. T.

***T. kotschyianum* Boiss. & Hohen.**

Muradiye, Görecek village, Şevkii, steppe/rocky areas, 2350 m, 24 vi 2002, *OK* 3664. T.

***T. perfoliatum* L.**

Muradiye, Ünseli village, S slope of Akçadağ, steppe/rocky areas, 2200 m, 17 iv 2001, *OK* 1118. T.

***Capsella bursa-pastoris* (L.) Medik.**

Erciş, Yukarı Kozluca district, meadow, 2300 m, 14 iv 2002, *OK* 2844. T.

***Neslia paniculata* (L.) Desv.**

Muradiye, Ünseli village, Akçadağ south slopes, steppe, 2000 m, 12 v 2001, *OK* 1287. T.

***Bunias orientalis* L.**

Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, *OK* 1980. Hk.

***Fibigia macrocarpa* (Boiss.) Boiss.**

Muradiye, E of Hachalit hill, steppe, 2300 m, 26 iv 2001, *OK* 1161. Hk.

***F. suffruticosa* (Vent.) Sweet**

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1739. Hk.

***Bornmuellera cappadocica* (DC.) Cullen & T.R.Dudley**

Erciş, Yukarı Göze district surroundings, slope, 2000-2200 m, 19 v 2002, *OK* 1934. Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3061. Ka. END.-LC, Ir.-Tur.

***Alyssum alyssoides* (L.) L.**

Muradiye, Açıkyol village surroundings, steppe, 1800-2300 m, 02 v 2001, *OK* 1239. T.

A. desertorum* Stapf var. *desertorum

Muradiye, Alkasnak village, steppe, 1900 m, 26 iv 2001, *OK* 1144. T.

***A. szowitsianum* Fisch. & Mey.**

Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2000 m, 28 v 2002, *OK* 3050. T.

A. minus* (L.) Rothm. var. *minus

Muradiye, Akçadağ, E of Hachalit hill, steppe, 2000-2600 m, 26 iv 2001, *OK* 1173. T.

***A. minus* (L.) Rothm. var. *micranthum* (C.A.Mey.) T.R.Dudley**

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2000 m, 11 vi 2001, *OK* 1621. T.

- A. stapfii** Vierh.
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1524. T. Ir.-Tur.
- A. ochroleucum** Boiss. & Huet
Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1870. Ka. END.-LC.
- A. praecox** Boiss. & Bal. var. **praecox**
Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3508. Ka. END.-LC.
- A. pateri** Nyár. subsp. **pateri**
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2621. Hk. END.-LC. Ir.-Tur.
- Draba muralis** L.
Muradiye, Ünseli village, Bey district, meadow, 1800 m, 17 iv 2001, *OK* 1080. T.
- D. nemorosa** L.
Muradiye, Ünseli village, Akçadağ, steppe/rocky places, 1900 m, 17 iv 2001, *OK* 1117. T.
- D. huetii** Boiss.
Muradiye, Şeytan bridge surroundings, steppe, 2000 m, 05 v 2002, *OK* 2860. T.
- Erophila verna** (L.) Chevall. subsp. **verna**
Muradiye, Alkasnak village, humid places, 1800 m, 31 iii 2001. *OK* 1067. T.
- Arabis caucasica** Willd. subsp. **caucasica**
Muradiye, Ünseli village, Arnis plateau, rocky places, 2700 m, 02 vi 2001, *OK* 1517. Hk.
- A. caucasica** Willd. subsp. **brevifolia** (DC.) Cullen
Muradiye, Alkasnak village, W of Ziyaret hill, rocky places, 2400 m, 16 v 2001, *OK* 1368. Hk. E. Medit (mt.).
- A. nova** Vill.
Muradiye, Görecek village surroundings, steppe, 1900 m, 05 v 2002, *OK* 2887. T.
- A. montbretiana** Boiss.
Muradiye, Şeytan bridge surroundings, steppe, 2000 m, 05 v 2002, *OK* 2859. T. Ir.-Tur.
- Nasturtium officinale** R.Br.
Muradiye, Alkasnak village, streamsides, 2200 m, 16 v 2001, *OK* 1301. Kr.
- Barbarea vulgaris** R.Br.
Muradiye, Alkasnak village, W of Ziyaret hill, humid places, 2400 m, 02 v 2001, *OK* 1197. Hk.
- ▲**B. verna** (Mill.) Asch.
Muradiye, W of Babacan village, humid places, 2100 m, 28 v 2002, *OK* 3060. Hk.
- B. plantaginea** DC.
Muradiye, Açıkyol village, humid places, 2000 m, 02 v 2001, *OK* 1224. Hk.
- B. minor** K.Koch var. **minor**
Muradiye, Alkasnak village, W of Ziyaret hill, humid places, 2400 m, 16 v 2001, *OK* 1328. Hk. Ir.-Tur.
- B. minor** K.Koch var. **robusta** Cullen & Coode
Muradiye, Ünseli village, Bey district, humid places, 1750 m, 12 v 2001, *OK* 1254. Hk. END.-LC.
- B. minor** K.Koch var. **eriopoda** Busch
Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2407. Hk.
- Cardamine tenera** C.C.Gmel.
Muradiye, Alkasnak village, W of Ziyaret hill, meadow, 2400 m, 16 v 2001, *OK* 1299. Hk. H.Eux.?
- C. uliginosa** M.Bieb.
Muradiye, Alkasnak village, W of Ziyaret hill, meadow, 2400 m, 16 v 2001, *OK* 1296. Hk.
- Drabopsis verna** K.Koch
Muradiye, Açıkyol village surroundings, humid places, 1900 m, 02 v 2001, *OK* 1211. T. Ir.-Tur.
- Chorispora tenella** (Pall.) DC.
Muradiye, Between Dürükaş and Alkasnak village, fields, 1750 m, 02 v 2001, *OK* 1185. T.
- Hesperis bicuspidata** (Willd.) Poir.
Muradiye, Akçadağ, N of Ziyaret hill, rocky places, 2500 m, 21 vi 2001, *OK* 1771. Hk.
- Erysimum pulchellum** (Willd.) Gay
Muradiye, Dürükaş? village, E of Hacıhalit hill, steppe, 2200 m, 26 iv 2001, *OK* 1176. Hk.
- E. alpestre** Kotschy & Boiss.
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2060. Hk. Ir.-Tur.
- E. crassipes** Fisch. & C.A.Mey.
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2630. Hk.
- E. smyrnaeum** Boiss. & Ball
Muradiye, Dürükaş village, W of Hacıhalit hill, steppe, 2000 m, 26 iv 2001, *OK* 1177. Hk.
- E. repandum** L.
Muradiye, Açıkyol village surroundings, fields, 1800 m, 02 v 2001, *OK* 1212. T.
- Alliaria petiolata** (M. Bieb.) Cavara & Grande
Muradiye, E of Babacan village, humid places, 2000 m, 29 v 2002, *OK* 3095. T.
- Sisymbrium altissimum** L.
Erciş, Aşağı Kozluca district, fields, 1900 m, 24 vi 2001, *OK* 1876. Hk. Ir.-Tur.
- S. loeselii** L.
Muradiye, Alkasnak village, meadow, 1800 m, 21 x 2000, *OK* 1033. T.
- Descurainia sophia** (L.) Webb ex Prantl
Muradiye, Açıkyol village, meadow, 1800 m, 02 v 2001, *OK* 1222. T.
- Arabidopsis thaliana** (L.) Heynhold
Muradiye, Ünseli village surroundings, steppe, 1800 m, 19 v 2002, *OK* 2908. T.
- Camelina rumelica** Vell.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1850 m, 11 vi 2001, *OK* 1666. T.
- RESEDACEAE**
- Reseda lutea** L. var. **lutea**
Muradiye, Muradiye waterfall surroundings, streamsides, 1800 m, 12 vii 2001, *OK* 2318. Hk.
- CISTACEAE**
- Helianthemum ledifolium** (L.) Mill. var. **ledifolium**
Muradiye, Açıkyol village surroundings, rocky places, 1800 m, 02 v 2001, *OK* 1221. T.

VIOLACEAE

Viola parvula Tineo

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2500 m, 02 v 2001, OK 1206. T.

CARYOPHYLLACEAE

Arenaria cucubaloides Sm.

Muradiye, Akçadağ, W of Ziyaret hill, rocky places, 2100 m, 12 vi 2001, OK 1695. Ka. Ir.-Tur.

A. dianthoides Sm.

Muradiye, Kemerköprü village, Neri hill, rocky places/steppe, 2846 m, 21 vi 2001, OK 1851. Hk. Ir.-Tur.

A. gypsophiloides L. var. *gypsophiloides*

Erciş, Yukarı Kozluca district, steppe/rocky places, 2250 m, 24 vi 2001, OK 1922. Hk. Ir.-Tur.

A. gypsophiloides L. var. *glabra* Fenzl

Muradiye, Şeytan bridge surroundings, steppe, 2200 m, 29 v 2001, OK 1452. Ka. Ir.-Tur.

Minuartia dianthifolia (Boiss.) Hand.-Mazz. subsp. *kurdica* McNeill

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2092. Hk. Ir.-Tur.

M. juniperina (L.) Maire & Petitm.

Muradiye, Alkasnak village, N slope of Ziyaret hill, rocky places, 2550 m, 21 vi 2001, OK 1768. Ka.

M. lineata Bornm.

Muradiye, Kemerköprü village, Neri hill, steppe/rocky places, 2500 m, 21 vi 2001, OK 1852. Hk. Ir.-Tur.

M. anatolica (Boiss.) Woronow var. *polymorpha* McNeill

Muradiye, Ünseli village, Akçadağ south slopes, steppe, 1750-2700 m, 11 vi 2001, OK 1636. Hk.

M. erythrosepala (Boiss.) Hand.-Mazz. var. *erythrosepala*

Muradiye, Babacan village, W of Derviş plateau, steppe, 2450 m, 15 vii 2002, OK 3453. Hk.

M. subtilis (Fenzl) Hand.-Mazz.

Muradiye, Derviş plateau, Emirgezer stream, humid places, 2400 m, 15 vii 2002, Behçet 6705. T. Ir.-Tur.

Stellaria persica Boiss.

Muradiye, Babacan village, Hacı cave, wet places, 2300 m, 08 vii 2001, OK 2174. Hk.

Cerastium cerastioides (L.) Britt

Muradiye, Alkasnak village, wet places, 1800 m, 24 iii 2001, OK 1059. T.

C. dubium (Bást.) O.Schwarz (Syn: *C. anomalum* Waldst. & Kit Tan)

Muradiye, Açıkyol village surroundings, meadow, 2000 m, 02 v 2001, OK 1195. T.

C. purpurascens Adams

Muradiye, Şeytan bridge surroundings, meadow, 2300 m, 29 v 2001, OK 1413. Hk.

C. dichotomum L. subsp. *dichotomum*

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, OK 1533. T.

C. longifolium Willd.

Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2150 m, 28 v 2002, OK 3030. T. Ir.-Tur.

C. glomeratum Thuill.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 12 v 2001, OK 1242. T.

Holosteum umbellatum L. var. *umbellatum*

Muradiye, Alkasnak village, humid places, 1800 m, 31 iii 2001, OK 1068. T.

Moenchia mantica (L.) Bartl. subsp. *mantica*

Muradiye, Alkasnak village, W of Ziyaret hill, meadow, 2200 m, 12 vi 2001, OK 1699. T.

Sagina saginoides (L.) H.Karst.

Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, OK 2169. T.

S. procumbens L.

Muradiye, Saraç district surroundings, meadow, 2000 m, 16 vii 2001, OK 2440. T.

Telephium oligospermum Steud. ex Boiss.

Erciş, Yukarı Kozluca district, steppe/rocky places, 2250 m, 24 vi 2001, OK 1954. Hk. Ir.-Tur.

Dianthus crinitus Sm. var. *crinitus*

Muradiye, Alkasnak village, Ziyaret hill, steppe, 2400 m, 12 vi 2001, OK 1687. Hk.

▲*D. crinitus* Sm. var. *crossopetalus* Boiss.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, OK 1994. Hk.

D. orientalis Adams

Muradiye, Babacan village, Hüseyin Kom stream surroundings, rocky places, 2300 m, 11 ix 2001, OK 2741. Hk.

D. erythrocoleus Boiss.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe/rocky places, 2200 m, 16 vii 2001. Hk. END.-LC. Ir.-Tur.

D. masmenaeus Boiss. var. *masmenaeus*

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, OK 2021. Hk. END.-LC. Ir.-Tur.

D. masmenaeus Boiss. var. *glabrescens* Boiss.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2038. Hk. END.-LC. Ir.-Tur.

D. calocephalus Boiss.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, OK 1688. Hk.

Petrorhagia alpina (Hablitz) Ball & Heywood subsp. *alpina*

Erciş, Lake Çiriş surroundings, stony places, 2400 m, 15 vii 2002, OK 3503. T.

Gypsophila perfoliata L.

Muradiye, Görecek village surroundings, steppe, 1900 m, 15 vii 2002, OK 3437. Hk.

G. ruscifolia Boiss.

Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, OK 2620. Hk. Ir.-Tur.

Vaccaria pyramidata Medik. var. *grandiflora* (Fisch. ex DC.) Cullen

Erciş, Aşağı Kozluca district, fields, 1900 m, 24 vi 2001, OK 1879. T.

V. pyramidata Medik. var. *oxyodonta* (Boiss.) Zohary

Muradiye, Muradiye waterfall surroundings, fields, 1850 m, 23 vi 2002, OK 3147. T. Ir.-Tur.

- Silene italica* (L.) Pers.
Muradiye, between Görecek village and Derviş plateau, steppe, 2000 m, 15 vii 2002, *OK* 3525. Hk.
- S. longipetala* Vent.
Muradiye, Ünseli village, W slope of Akçadağ, rocky places, 1750-2700 m, 11 vi 2001, *OK* 1674. Hk.
- S. marschallii* C.A.Mey.
Muradiye, Alkasnak village, W of Ziyaret hill, steppe/rocky places, 2400 m, 16 v 2001, *OK* 1314. Hk. Ir.-Tur.
- S. capitellata* Boiss.
Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, *OK* 1454. Hk. END.-LC. Ir.-Tur.
- S. laxa* Boiss. & Kotschy
Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2501. Hk. Ir.-Tur.
- S. muradica* Schischk.
Muradiye, Görecek village surroundings, humid places, 1800 m, 13 vi 2002, *OK* 3119. Hk. END.-LC. Ir.-Tur.
- S. cappadocica* Boiss. & Heldr.
Muradiye, Ünseli village, Bey district, steppe, 1700 m, 11 vi 2001, *OK* 1597. Hk. Ir.-Tur.
- S. spergulifolia* (Desf.) M.Bieb.
Muradiye, Ünseli village, W slope of Akçadağ, steppe/rocky places, 2400 m, 11 vi 2001, *OK* 1669. Hk. Ir.-Tur.
- S. montbretiana* Boiss.
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2131. Hk. Ir.-Tur.
- S. arguta* Fenzl
Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1730. Hk. Ir.-Tur.
- S. ampullata* Boiss.
Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3355. Ka. Ir.-Tur.
- S. vulgaris* (Moench) Garcke var. *vulgaris*
Muradiye, Alkasnak village, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1767. Hk.
- S. vulgaris* (Moench) Garcke var. *commutata* (Guss.) Coode & Cullen
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1957. Hk.
- S. araratica* Schischk. subsp. *davisii* (Chowdhuri) Ghaz.
Muradiye, Ünseli village, S slope of Akçadağ, rocky places, 1750-2700 m, 11 vi 2001, *OK* 1642. Hk. END.-NT. Ir.-Tur.
- S. alba* (Mill.) K.Krause subsp. *divaricata* (Reichb.) Walters
Muradiye, Görecek village surroundings, meadow, 1850 m, 13 vi 2002, *OK* 3118. Hk.
- S. alba* (Mill.) Krause subsp. *ericalycina* (Boiss.) Walters
Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2200 m, 29 v 2001, *OK* 1462. Hk.
- S. conoidea* L.
Muradiye, between Alkasnak and Dürükaş village, fields, 1800 m, 30 vii 2001, *OK* 2653. T.
- ILLECEBRACEAE**
Herniaria argaea Boiss.
Muradiye, Babacan village, Derviş plateau surroundings, meadow, 2400 m, 14 x 2002, *OK* 3632. T. END.-VU.
- H. glabra* L.
Muradiye, Alkasnak village, Akçadağ, Devetaşı hill, high mountain meadow, 2700 m, 02 ix 2001, *OK* 2671, T.
- H. incana* Lam.
Muradiye, Görecek village surroundings, steppe, 1900 m, 15 vii 2002, *OK* 3435. T.
- Scleranthus annuus* L. subsp. *annuus*
Muradiye, Alkasnak village, steppe, 1900 m, 21 x 2000, *OK* 1044. T.
- S. uncinatus* Schur
Erciş, Yukarı Göze district, humid forest places, 2000 m, 24 vii 2001, *OK* 2459. T.
- POLYGONACEAE**
Rheum ribes L.
Muradiye, Babacan village, Hüseyin Kom stream, rocky slopes, 2200 m, 28 v 2002, *OK* 3031. Kr. Ir.-Tur.
- Polygonum alpinum* All.
Muradiye, Akçadağ, N slope of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1773. Hk. Euro- Sib.
- P. amphibium* L.
Erciş, Yukarı Göze district, humid forest places, 2000 m, 24 vii 2001, *OK* 2450. Hk.
- P. setosum* Jacq.
Muradiye, Görecek village, Şevkii, rocky places/steppe, 2200-2500 m, 08 vii 2001, *OK* 2086. Hk. Ir.-Tur.
- P. cognatum* Meisn.
Muradiye, Kemerköprü village, Neri hill, steppe, 2650 m, 21 vi 2001, *OK* 1875. Hk.
- P. aviculare* L.
Erciş, Aşağı Kozluca district, fields, 1900 m, 24 vi 2001, *OK* 1887. T.
- P. pulchellum* Loisel.
Muradiye, Babacan village, meadow, 1900 m, 27 vii 2001, *OK* 2557. T.
- P. bellardii* All.
Muradiye, between Görecek village and Derviş plateau, roadside, 2200 m, 15 vii 2002, *OK* 3532. T.
- P. convolvulus* L.
Muradiye, Babacan village, Hüseyin Kom stream, rocky slopes-steppe, 2300 m, 27 vii 2001, *OK* 2612. T.
- Rumex acetosella* L.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1900 m, 11 vi 2001, *OK* 1622. Hk.
- R. scutatus* L.
Muradiye, Alkasnak village, rocky places, 1800 m, 21 x 2000, *OK* 1028. Hk.
- R. tuberosus* L. subsp. *horizontalis* (Koch) Rech.
Muradiye, Saraç district surroundings, 1900 m, 16 vii 2001, *OK* 2383. Kr.
- R. caucasicus* Rech.
Muradiye, Akçadağ, N slope of Ziyaret hill, steppe, 2700 m, 21 vi 2001, *OK* 1754. Hk. Eux. (mt.).
- R. ponticus* E.H.L.Krause
Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2076. Hk. END.-LC. Ir.-Tur.
- R. crispus* L.
Muradiye, Babacan village, Hüseyin Kom stream, open places, 2300 m, 11 ix 2001, *OK* 2742. Hk.

CHENOPODIACEAE

Beta corolliflora Zosimovic ex Buttler
(Syn: **B. trigyna** Waldst. & Kit Tan)

Muradiye, between Görecek village and Derviş plateau, roadside, 2100 m, 15 vii 2002, *OK* 3535. Hk.

Chenopodium botrys L.

Erciş, Yukarı Kozluca district, steppe, 2000 m, 30 vi 2001, *OK* 2026. T.

C. foliosum (Moench) Asch.

Erciş, Yukarı Kozluca district, roadside, 2500 m, 30 vi 2001, *OK* 2027. Hk.

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

Muradiye, Babacan village, meadow, 1900 m, 27 vii 2001, *OK* 2558. T.

C. album L. subsp. **album** var. **microphyllum** (Boenn.) Aellen

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 21 x 2001, *OK* 2800. T.

Spinacia tetrandra Stev.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2063. Hk. DD

Kochia prostrata (L.) Schrad.

Muradiye, between Alkasnak and Dürükaş village, steppe, 1750 m, 30 vii 2001, *OK* 2661. Ka.

Suaeda altissima (L.) Pall.

Muradiye, side of Lake Van, fields, 1700 m, 30 vii 2001, *OK* 2631. Hk.

Salsola ruthenica Iljin

Muradiye, Alkasnak village, field edges, 1750 m, 02 ix 2001, *OK* 2680. Hk.

S. tragus L.

Muradiye, side of Lake Van, steppe, 1700 m, 30 vii 2001, *OK* 2647. Hk.

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

Muradiye, Babacan village, Hüseyin Kom stream, roadside, 2300 m, 27 vii 2001, *OK* 2562. Ka.

AMARANTHACEAE

Amaranthus chlorostachys Willd.

Erciş, Yukarı Göze district, humid forest places, 2000 m, 24 vii 2001, *OK* 2458. T.

A. albus L.

Muradiye, side of Lake Van, edges field, 1700 m, 30 vii 2001, *OK* 2650. T.

ELATINACEAE

▲**Elatine alsinastrum** L.

Muradiye, Babacan village, Derviş plateau, damp places, 2400 m, 15 vii 2002, *Behçet* 6698. Kr.

HYPERICACEAE (GUTTIFERAE)

Hypericum lysimachioides Boiss. & Noë var. **spathulatum** Robson

Muradiye, W slope of Ziyaret hill, steppe/rocky places, 2200 m, 12 vi 2001, *OK* 1707. Hk. Ir.-Tur.

H. retusum Aucher

Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1867. Hk. Ir.-Tur

H. scabrum L.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2008. Ka. Ir.-Tur.

H. venustum Fenzl

Muradiye, Babacan village, Hacı cave, Kom stream, humid slopes, 2400 m, 08 vii 2001, *OK* 2176. Hk.

H. perforatum L.

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2300 m, 11 ix 2001, *OK* 2738. Hk.

MALVACEAE

Hibiscus trionum L.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 21 x 2001, *OK* 2808. T.

Malva neglecta Wallr.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 1800 m, 04 vi 2001, *OK* 1536. T.

▲**Lavatera thuringiaca** L.

Muradiye, Muradiye waterfall surroundings, rocky places, 1900 m, 12 vii 2001, *OK* 2284. Hk.

Alcea calvertii (Boiss.) Boiss.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1903. Hk. END.-LC. Ir.-Tur.

LINACEAE

Linum meletonis Hand.-Mazz.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2145. Hk. Ir.-Tur.

L. obtusatum (Boiss.) Stapf.

Muradiye, Ünseli village, N slopes of Akçadağ, steppe, 2500 m, 02 vi 2001, *OK* 1510. Ka. END.-LC. Ir.-Tur.

L. austriacum L. subsp. **austriacum**

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2100 m, 12 vi 2001, *OK* 1728. Hk.

L. austriacum L. subsp. **glaucescens** (Boiss.) P.H.Davis

Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2100 m, *OK* 1455. Hk.

GERANIACEAE

Geranium tuberosum L. subsp. **tuberosum**

Muradiye, Babacan village, edges field, 1850 m, 28 v 2002, *OK* 2991. Kr.

G. stepporum P.H.Davis

Muradiye, Açıkyol village surroundings, steppe, 1850 m, 02 v 2001, *OK* 1216. Kr. Ir.-Tur.

G. libanoticum Schenk

Muradiye, Akçadağ, Wof Hachalit hill, steppe, 2000 m, 26 iv 2001, *OK* 1181. Kr.

G. sylvaticum L.

Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2100 m, 27 vii 2001, *OK* 2575. Kr. Euro-Sib.

G. pratense L. subsp. **finitimum** (Woronow) Knuth

Erciş, Yukarı Göze district, humid forest places, 2000 m, 24 vii 2001, *OK* 2480. Hk.

▲**G. ibericum** Cav. subsp. **jubatum** (Hand.-Mazz.) P.H.Davis

Muradiye, Babacan village, Hacı cave, Kom stream, humid slopes, 2400 m, 08 vii 2001, *OK* 2184. Hk. END.-LC. Eu. (mt.).

Erodium hoefftianum C.A.Mey.

Muradiye, Görecek village surroundings, steppe/rocky places, 1900 m, 05 v 2002, *OK* 2888. T.

E. absinthoides Willd. subsp. *armenum* (Trautv.) P.H.Davis

Muradiye, Ünseli village, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, *OK* 1498. Hk. Ir.-Tur.

E. cicutarium (L.) L'Hérit. subsp. *cicutarium*

Muradiye, Açıkyol village, meadow, 1900 m, 02 v 2001, *OK* 1226. T.

ZYGOPHYLLACEAE

Tribulus terrestris L.

Muradiye, side of Lake Van, sandy places, 1700 m, 30 vii 2001, *OK* 2648. Hk. Ir.-Tur.

Peganum harmala L.

Muradiye, between Alkasnak and Dürükaş village, steppe, 1750 m, 30 vii 2001, *OK* 2656. Hk.

ACERACEAE

Acer negundo L.

Muradiye, Şeytan bridge surroundings, forest places, 1800 m, 12 vii 2001, *OK* 2298. Fa.

FABACEAE (LEGUMINOSAE)

**Robinia pseudoacacia* L.

Muradiye, Şeytan bridge surroundings, forest places, 1800 m, 27 vii 2001, *OK* 2537. Fa.

Astragalus galegiformis L.

Muradiye, Alkasnak village, W slope of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1740. Hk. Euro-Sib.?

A. caraganae Fisch. & Mey.

Erciş, Aşağı Kozluca district, roadside, 1700 m, 19 v 2002, *OK* 2977. Hk. Ir.-Tur.

A. angustiflorus K.Koch subsp. *angustiflorus*

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 1998. Hk. Ir.-Tur.

A. fraxinella Bunge

Muradiye, Görecek village surroundings, rocky places, 1800 m, 05 v 2002, *OK* 2889. Ka. Ir.-Tur.

A. brachycalyx Fischer

Muradiye, Babacan village, Hüseyin Kom stream, rocky places, 2300 m, 27 vii 2001, *OK* 2608. Ka. Ir.-Tur.

A. gummifer L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2350. Ka. Ir.-Tur.

A. aureus Willd.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2022. Ka. Ir.-Tur.

A. longifolius Lam.

Muradiye, S slope of Şeytan bridge, steppe, 2000 m, 27 vii 2001, *OK* 2553. Ka. Ir.-Tur.

A. dipodurus Bunge

Muradiye, Babacan village, Hacı cave, steppe, 2300 m, 24 vi 2002, *OK* 3256. Ka. Ir.-Tur.

A. lagurus Willd.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1539a. Ka. Ir.-Tur.

A. hirticalyx Boiss. & Kotschy

Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 24 vi 2002, *OK* 3257. Ka. Ir.-Tur.

A. persicus (DC.) Fisch. & Mey.

Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1844. Hk. Ir.-Tur.

A. woronowii Bornm.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1539b. Ka.

A. halicacabus Lam.

Muradiye, Şeytan bridge surroundings, meadow, 1800 m, 29 v 2001, *OK* 1410. Ka. Ir.-Tur.

A. mesites Boiss. & Buhse

Muradiye, Kemerköprü village, Neri hill, steppe, 1900 m, 21 vi 2001, *OK* 1843. Hk. Ir.-Tur.

A. macrocephalus Willd. subsp. *finitimus* (Bunge) Chamberlain

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1931. Ka. Ir.-Tur.

A. odoratus Lam.

Muradiye, Görecek village surroundings, steppe, 1950 m, 24 vi 2002, *OK* 3321. Ka.

A. ornithopodioides Lam.

Muradiye, Şeytan bridge surroundings, edges field, 1800 m, 29 v 2001, *OK* 1405. Ka. Ir.-Tur.

A. adunciformis Boiss.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24vi 2001, *OK* 1946. Ka.

A. lycius Boiss.

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3068, Ka. END.-NT.

A. aduncus Willd.

Muradiye, Kemerköprü village, Neri hill, rocky slopes, 2400 m, 21 vi 2001, *OK* 1845. Hk. Ir.-Tur.

A. onobrychis L.

Muradiye, Ünseli village, S slope of Akçadağ, rocky places, 1750-2700 m, 11 vi 2001, *OK* 1683. Hk.

A. arguricus Bunge

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2113. Hk. VU. Ir.-Tur.

A. hyalolepis Bunge

Muradiye, Akçadağ, N slope of Ziyaret hill, high mountain meadow, 2700 m, 21 vi 2001, *OK* 1765. Ka. Ir.-Tur.

A. fragrans Willd.

Muradiye, Açıkyol village surroundings, meadow, 1800 m, 02 v 2001, *OK* 1213. Hk. Ir.-Tur.

A. fodinarum Boiss. et Noé.

Muradiye, Görecek village, Şevki, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2041. Hk. Ir.-Tur.

A. cinereus Willd.

Muradiye, E of Babacan village, steppe, 2100 m, 29 v 2002, *OK* 3101. Hk. END.-LC. Ir.-Tur.

A. subrobustus Boriss.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1945. Hk. Ir.-Tur.

A. viridis Bunge

Muradiye, Şeytan bridge surroundings, steppe, 2400 m, 30 vi 2001, *OK* 1990. Ka. Ir.-Tur.

- Cicer anatolicum* Alef.
Muradiye, Kemerköprü village, Neri hill, steppe, 2400 m, 21 vi 2001, *OK* 1847. Hk. Ir.-Tur.
- Vicia cracca* L. subsp. *tenuifolia* (Roth) Gaudin
Muradiye, Alkasnak village, N slope of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1766. Hk.
- V. cracca* L. subsp. *stenophylla* Vell.
Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2502. Hk.
- V. canescens* Lab. subsp. *variegata* (Willd.) P.H.Davis
Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 24 vi 2002, *OK* 3258. Hk. Ir.-Tur.
- V. alpestris* Steven subsp. *alpestris*
Muradiye, Ünseli village, S slope of Akçadağ, rocky places, 1750-2700 m, 11 vi 2001, *OK* 1682. Hk.
- V. ervilia* (L.) Willd.
Muradiye, Ünseli village surroundings, steppe, 1800 m, 19 v 2002, *OK* 2916. T.
- V. lathyroides* L.
Muradiye, Alkasnak village, W slope of Ziyaret hill, meadow, 2100 m, 16 v 2001, *OK* 1302. T.
- Lathyrus pallescens* (M.Bieb.) Koch
Muradiye, Babacan village, Hacı cave slope, steppe, 2400 m, 08 vii 2001, *OK* 2205. Hk.
- L. brachypterus* Celak. var. *haussknechtii* (Sirj.) P.H.Davis
Muradiye, Görecek village, Şevki, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2042. Hk. END.-LC. Ir.-Tur.
- L. cyaneus* (Steven) Koch var. *pinnatus* P.H.Davis
Erciş, Yukarı Göze district surroundings, steppe, 2000-2200 m, 19 v 2002, *OK* 2941. Hk. END.-NT. H. Eux.
- L. boissieri* Sirj.
Muradiye, Babacan village, Hacı cave, Kom stream surroundings, humid places, 2400 m, 08 vii 2001, *OK* 2189. Hk. Ir.-Tur.
- L. pratensis* L.
Muradiye, Babacan village, Hacı cave, Kom stream surroundings, humid places, 2400 m, 08 vii 2001, *OK* 2186. Hk. Euro-Sib.
- L. rotundifolius* Willd. subsp. *miniatus* (M.Bieb. ex Steven) P.H.Davis
Muradiye, Şeytan bridge surroundings, rocky places, 2300 m, 29 v 2001, *OK* 1414. Hk.
- L. inconspicuus* L.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2400 m, 12 v 2001, *OK* 1281. T.
- Ononis spinosa* L. subsp. *leiosperma* (Boiss.) Sirj.
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2349. Hk.
- Trifolium repens* L. var. *repens*
Erciş, Deredam district, meadow, 2000 m, 30 viii 2001, *OK* 2636. Hk.
- T. montanum* L. subsp. *humboldtianum* (A.Br. & Asch.) M.Hossain
Muradiye, Görecek village, Şevkii, humid places, 2200-2500 m, 08 vii 2001, *OK* 2045. Hk.
- T. ambiguum* M.Bieb.
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2044. Hk.
- T. hybridum* L. var. *hybridum*
Muradiye, Babacan village, Hüseyin Kom stream surroundings, meadow, 2300 m, 27 vii 2001, *OK* 2574. Hk.
- T. aureum* Pollich
Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2471. T. Euro-Sib.
- T. campestre* Schreb.
Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2403. T.
- T. physodes* Stev. ex M.Bieb. var. *physodes*
Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, *OK* 1423. Hk. Medit.
- T. pratense* L. var. *pratense*
Muradiye, Babacan village surroundings, meadow, 1950 m, 11 ix 2001, *OK* 2712. Hk.
- T. trichocephalum* M.Bieb.
Muradiye, Şeytan bridge surroundings, meadow, 1750 m, 29 v 2001, *OK* 1404. Hk.
- T. arvense* L. var. *arvense*
Erciş, Yukarı Göze district, Deliçay stream, humid forest place, 2000 m, 24 vii 2001, *OK* 2472. T.
- Melilotus officinalis* (L.) Desr.
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2637. Hk.
- M. alba* Desr.
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2640. Hk.
- Medicago lupulina* L.
Muradiye, Ünseli village, Bey district, meadow, 1850 m, 21 x 2001, *OK* 2794. Hk.
- M. sativa* L. subsp. *sativa*
Muradiye, Babacan village surroundings, meadow, 1850 m, 11 ix 2001, *OK* 2713. Hk.
- M. x varia* Martyn
Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2300 m, 27 vii 2001, *OK* 2569. Hk.
- ▲*M. rigidula* (L.) All. var. *cinerascens* (Jord.) Rouy
Muradiye, Ünseli village surroundings, steppe, 1800 m, 19 v 2002, *OK* 2914. T.
- Lotus corniculatus* L. var. *corniculatus*
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1947. Hk.
- Coronilla orientalis* Mill. var. *orientalis*
Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2071. Ka.
- C. varia* L. subsp. *varia*
Muradiye, Babacan village surroundings, meadow, 1850 m, 11 ix 2001, *OK* 2714. Hk.
- ▲*Onobrychis sulphurea* Boiss. & Bal. var. *sulphurea*
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1961. Hk. END.-NT. E. Medit.

O. sulphurea Boiss. & Bal. var. *vanensis* Hedge

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2150 m, 11 vi 2001, *OK* 1644. Hk. END.-NT. Ir.-Tur.

▲*O. oxyodonta* Boiss.

Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3499. Hk.

O. transcaucasica Grossh.

Muradiye, Şeytan bridge, field edges, 1800 m, 29 v 2001, *OK* 1405a. Hk. Ir.-Tur.

ROSACEAE

Prunus divaricata Ledeb. subsp. *divaricata*

Muradiye, Babacan village, Derviş plateau, Hacı cave, steppe, 2400 m, 08 vii 2001, *OK* 2211a. Fa.

**Armeniaca vulgaris* Lam.

Muradiye, Alkasnak village, 1800 m, 16 vii 2001, *OK* 2324. Fa

Amygdalus communis L.

Muradiye, Dürükaş village, E of Hacıhalit hill, steppe, 2000 m, 26 iv 2001, *OK* 1167. Fa.

Filipendula vulgaris Moench.

Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2404. Hk. Euro-Sib.

F. ulmaria (L.) Maxim.

Muradiye, Babacan village, Hacı cave, Kom stream surroundings, humid places, 2400 m, 08 vii 2001, *OK* 2204. Kr. Euro-Sib.

Potentilla bifurca L.

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2046. Hk.

P. inclinata Vill.

Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2300 m, 27 vii 2001, *OK* 2579. Hk.

P. recta L.

Erciş, Yukarı Kozluca district, meadow, 2250 m, 24 vi 2001, *OK* 1927. Hk.

P. anatolica Peşmen

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1943. Kr. END.-LC. Ir.-Tur.

P. pannosa Boiss. & Hausskn.

Muradiye, Alkasnak village, Akçadağ, Deveta?ı hill, high mountain meadow, 2700 m, 02 ix 2001, *OK* 2666. Hk. VU. Ir.-Tur.

P. geranioides Willd.

Muradiye, E of Babacan village, steppe, 2100 m, 29 v 2002, *OK* 3102. Hk. Ir.-Tur.

P. reptans L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2000 m, 21 x 2000, *OK* 1039. Hk.

Geum rivale L.

Erciş, Yukarı Göze district, meadow, 2100 m, 24 vii 2001, *OK* 2495. Kr.

Agrimonia eupatoria L.

Erciş, Yukarı Göze district, Deliçay stream, streamside, 2000 m, 24 vii 2001, *OK* 2460. Kr.

Sanguisorba officinalis L.

Muradiye, Babacan village, Hüseyin Kom stream, in the water, 2300 m, 27 vii 2001, *OK* 2572. Hk.

S. minor Scop. subsp. *minor*

Muradiye, Babacan village, Derviş plateau surroundings, steppe, 2400 m, 14 x 2002, *OK* 3640. Hk.

S. minor Scop. subsp. *lasiocarpa* (Boiss. & Hausskn.) Nordbrog

Muradiye, Kemerköprü village, Neri hill, steppe, 2300 m, 21 vi 2001, *OK* 1820. Hk.

▲*Alchemilla sericata* Reichb.

Muradiye, Babacan village, Emirgezer stream, humid rocky slopes, 2400 m, 15 vii 2002, *Behçet* 6712. Hk. Hyrcano-Eu. (mt.)?,

▲*A. surculosa* S.E.Fröhner

Muradiye, Derviş plateau, Hacı cave surroundings, wet places, 2300 m, 08 vii 2001, *OK* 2218. Hk. Hyrcano-Euxine (mt.)

▲*A. mollis* (Buser) Rothm.

Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, *OK* 2160. Hk.

Rosa pulverulenta M.Bieb.

Muradiye, Kemerköprü village, Neri hill, steppe/rocky places, 2150 m, 21 vi 2001, *OK* 1842. Fa.

R. montana Chaix subsp. *woronowii* (Lonacz.) O.Nilsson

Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2496. Fa.

R. canina L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2100 m, 04 vi 2001, *OK* 1543. Fa.

R. heckeliana Tratt. subsp. *vanheurckiana* (Crépin) O.Nilsson

Muradiye, Şeytan bridge surroundings, steppe, 1800 m, 27 vii 2001, *OK* 2512a. Fa. Ir.-Tur.

R. heckeliana Tratt. subsp. *orientalis* (Dupont) Meikle

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2127. Fa. Ir.-Tur.

R. heckeliana Tratt. subsp. *orientalis* (Dupont) Meikle x *R. pulverulenta* M. Bieb.

Muradiye, Şeytan bridge surroundings, steppe, 1800 m, 27 vii 2001, *OK* 2512b. Fa. Ir.-Tur.

Cotoneaster nummularia Fisch. & C.A.Mey.

Muradiye, Görecek village, Şevkii, rocky places, 2200-2500 m, 08 vii 2001, *OK* 2080. Ka.

Crataegus orientalis Pallas ex M.Bieb. var. *orientalis*

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1711. Fa.

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

Muradiye, Saraç district surroundings, 2150 m, 16 vii 2001, *OK* 2431. Fa.

**Cydonia oblonga* Mill.

Muradiye, Ünseli village, Bey district, 1750 m, 12 v 2001, *OK* 1270. Fa.

**Malus sylvestris* Mill. subsp. *orientalis* (A.Uglitzkich) Browicz var. *orientalis*

Muradiye, Ünseli village, Bey district, 1750 m, 21 x 2001, *OK* 2791. Fa.

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

Muradiye, Ünseli village, Bey district, 1750 m, 12 v 2001, *OK* 1267. Fa.

LYTHRACEAE

Lytrum salicaria L.

Erciş, Yukarı Göze district, Deliçay stream, streamside, 2000 m, 24 vii 2001, *OK* 2465. Hk. Euro-Sib.

▲*L. portula* (L.) D.A.Webb

Muradiye, Babacan village, Derviş plateau, marshy places, 2400 m, 15 vii 2002, *OK* 3460. Kr.

ONAGRACEAE

Epilobium angustifolium L.

Muradiye, Saraç village surroundings, streamside, 2188 m, 16 vii 2001, *OK* 2424. Hk.

E. hirsutum L.

Erciş, Yukarı Göze district, Deliçay stream, streamside, 2000 m, 24 vii 2001, *OK* 2463. Kr.

E. tetragonum L. subsp. *lamiyi* (F.W.Schultz) Nyman

Muradiye, Kemerköprü village, Neri hill, humid places, 2300 m, 21 vi 2001, *OK* 1802. Hk. Euro-Sib.

E. anatolicum Hausskn. subsp. *anatolicum*

Muradiye, Görecek village, Şevkii, humid places, 2300 m, 30 ix 2001, *OK* 2755. Kr.

E. roseum Schreb. subsp. *subsessile* (Boiss.) P.H.Raven

Erciş, Yukarı Göze district, Deliçay stream, streamside, 2000 m, 24 vii 2001, *OK* 2462. Kr.

E. minutiflorum Hausskn.

Erciş, Yukarı Kozluca district, humid places, 2200 m, 24 vi 2001, *OK* 1959. Hk. Ir.-Tur.

E. confusum Hausskn.

Muradiye, Görecek village, Şevkii, streamside, 2300 m, 24 vi 2002, *OK* 3331. Kr. Ir.-Tur.

CALLITRICHACEAE

Callitriche palustris L.

Muradiye, Babacan village, Derviş plateau, in the water, 2400 m, 15 vii 2002, *Behçet* 6700. Kr.

CUCURBITACEAE

**Cucurbita moschata* Duch.

Muradiye, Alkasnak village, fields, 1750 m, 16 vii 2001, *OK* 2325b. Hk.

DATISCAEAE

Datisca cannabina L.

Muradiye, Alkasnak village, Gazi Mehmet hill, streamside, 2200 m, 16 vii 2001, *OK* 2367. Hk.

CRASSULACEAE

Hylotelephium telephium (L.) H.Ohba

Muradiye, Babacan village, meadow, 1900 m, 28 v 2002, *OK* 3013. Hk. Euro-Sib.

Phedimus obtusifolius (C.A.Mey.) 't Hart

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, *OK* 3412. Hk.

Rosularia radicyflora Boriss. subsp. *radicyflora*

Muradiye, Alkasnak village, Gazi Mehmet hill, rocky places, 2400 m, 04 vi 2001, *OK* 1541. Hk. Ir.-Tur.

R. sempervivum (M.Bieb.) A.Berger subsp. *kurdica* Egli

Muradiye, Kemerköprü village, Neri hill, rocky places, 2300 m, 21 vi 2001, *OK* 1817. Hk. Ir.-Tur.

Sedum album L.

Muradiye, Alkasnak village, W of Ziyaret hill, rocky places, 2200 m, 12 vi 2001, *OK* 1746. Hk.

S. subulatum (C.A.Mey.) Boiss.

Muradiye, Görecek village, Şevkii, rocky places, 2200-2500 m, 08 vii 2001, *OK* 2147. Hk.

Sempervivum armenum Boiss. & É.Huet var. *armenum*

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 15 vii 2002, *OK* 3561. Hk. END.-LC. Eux.(mt).

GROSSULARIACEAE

Ribes orientale Desf.

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2000 m, 28 v 2002, *OK* 3037. Fa.

APIACEAE (UMBELLIFERAE)

Eryngium wanaturi Woron.

Erciş, Yukarı Göze district surroundings, steppe, 2100 m, 24 vii 2001, *OK* 2488. Hk. VU. Ir-Tur. Appr.: M.G.Pimenov

E. billardieri Delar.

Erciş, Yukarı Göze district surroundings, steppe, 2100 m, 24 vii 2001, *OK* 2487. Hk. Ir-Tur.

Chaerophyllum macrospermum (Sprengel) Fisch. & C.A.Mey.

Muradiye, south-west of Babacan village, steppe, 2000 m, 27 vii 2001, *OK* 2616. Hk. Ir.-Tur.

C. crinitum Boiss.

Muradiye, Akçadağ, N slope of Ziyaret hill, steppe, 2700 m, 21 vi 2001, *OK* 1764. Kr. Ir.-Tur.

Grammosciadium daucoides DC.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2003. Hk. Ir.-Tur.

G. pterocarpum Boiss.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, *OK* 3351. Hk. Ir.-Tur.

Antriscus nemorosa (M.Bieb.) Spreng.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, *OK* 3399. Hk.

Scandix iberica M.Bieb.

Muradiye, between Dürükaş and Alkasnak village, field edges, 1700 m, 02 v 2001, *OK* 1186. T.

Smyrniopsis aucheri Boiss.

Muradiye Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, *OK* 1978. Hk. Ir.-Tur. Appr.: M.G.Pimenov

Bunium paucifolium DC. var. *paucifolium*

Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2400. Kr. Ir.-Tur.

Pimpinella aurea DC.

Muradiye, Görecek village surroundings, field edges, 1850 m, 15 vii 2002, *OK* 3430. Hk. Ir.-Tur.

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

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2125. Hk.

P. peucedanifolia Fischer ex Ledeb.

Muradiye, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, OK 2002. Hk. Ir.-Tur.

Prangos pabularia Lindl.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2061. Hk. Ir.-Tur.

P. ferulacea (L.) Lindl.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2064. Hk.

Bupleurum rotundifolium L.

Muradiye, Muradiye waterfall surroundings, steppe, 1800 m, 12 vii 2001, OK 2297. T.

▲*Apium nodiflorum* (L.) Lag.

Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, OK 2399. Hk.

Falcaria vulgaris Bernh.

Muradiye, Akçadağ, Ziyaret hill, steppe, 2300 m, 02 ix 2001, OK 2674. Hk.

Xanthogalum purpurascens Lallemand.

Muradiye, Babacan village, Hüseyin Kom stream slopes, steppe, 2300 m, 27 vii 2001, OK 2585. Hk.

Malabaila dasyantha (K.Koch) Grossh.

Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, OK 3192. Hk. Ir.-Tur.

Heracleum persicum Desf.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2134. Hk. Ir.-Tur.

Torilis leptophylla (L.) Reichb.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, OK 1702. T. Det.: M.G.Pimenov

Caucalis platycarpus L.

Muradiye, Babacan village, roadside, 1800 m, 28 v 2002, OK 2999. T.

Turgenia latifolia (L.) Hoffm.

Erciş, Aşağı Kozluca district, edges field, 1900 m, 24 vi 2001, OK 1891. T.

Daucus carota L.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 21 x 2001, OK 2790. Hk.

VALERIANACEAE

Valeriana alliariifolia Adams

Muradiye, Ünseli village to Arnis plateau, meadow, 2200-2750 m, 02 vi 2001, OK 1469. Hk.

V. sisymbriifolia Vahl

Muradiye, Alkasnak village, Gazi Mehmet hill, rocky places, 2400 m, 04 vi 2001, OK 1531. Hk. Ir.-Tur.

V. leucophaea DC.

Muradiye, Babacan village, Hüseyin Kom stream, humid slopes, 2300 m, 28 v 2002, OK 3052. Kr. H.Eux. (mt.).

Valerianella dactylophylla Boiss. & Hohen.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, OK 3348. T.

V. cymbicarpa C.A.Mey.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2000 m, 16 v 2001, OK 1337. T. Ir.-Tur.

DIPSACACEAE

Cephalaria syriaca (L.) Schrader

Erciş, Aşağı Kozluca district, steppe, 1800 m, 24 vi 2001, OK 1884. T.

C. procera Fisch. & Lall.

Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, OK 1972. Hk. Ir.-Tur.

C. sparsipilosa Matthews

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, OK 2109. Hk. END.-NT. Ir.-Tur.

Scabiosa argentea L.

Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, OK 2628. Hk.

S. rufescens Freyn & Sint.

Muradiye, Kemerköprü village, Akçadağ, Neri hill, steppe, 2200 m, 21vi 2001, OK 1821. T. END.-NT. Ir.-Tur.

S. calocephala Boiss.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, OK 1917. T. Ir.-Tur.

S. rotata M.Bieb.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, OK 1950. T. Ir.-Tur.

ASTERACEAE (COMPOSITAE)

Xanthium spinosum L.

Muradiye, Şeytan bridge surroundings, steppe, 1800 m, 27 vii 2001, OK 2510. T.

Inula helenium L. subsp. *pseudohelenium* Grierson

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2050 m, 11 ix 2001, OK 2728. Kr. Ir.-Tur.

I. salicina L.

Muradiye, Görecek village surroundings, humid rocky places, 1850 m, 11 x 2002, OK 3616. Hk. Euro-Sib.

I. mariae Bordz.

Muradiye, Görecek village, Şevkii, rocky places/steppe, 2200-2500 m, 08 vii 2001, OK 2099. Kr. Eux. (mt.).

I. acaulis Schott & Kotschy ex Boiss. var. *acaulis*

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, OK 2118. Kr.

I. acaulis Schott & Kotschy ex Boiss. var. *caulescens* Nábelek

Muradiye, Kemerköprü village, Neri hill, steppe, 2650 m, 21 vi 2001, OK 1796. Kr.

I. oculus-christi L.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, OK 1932. Hk. Euro-Sib.

I. britannica L.

Muradiye, S of Şeytan bridge, steppe, 2000 m, 27 vii 2001, OK 2552. Hk. Euro-Sib.

I. montbretiana DC.

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, OK 2118. Hk. Ir.-Tur.

Helichrysum plicatum DC. subsp. *plicatum*

Muradiye, Alkasnak village, W slopes of Ziyaret hill, steppe, 2200 m, 12 vi 2001, OK 1693. Ka.

H. plicatum DC. subsp. *polyphyllum* (Ledeb.) P.H.Davis & Kupicha

Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, *OK* 1449. Ka.

H. plicatum DC. subsp. *pseudopicatum* (Nábelek) P.H.Davis & Kupicha

Muradiye, Kemerköprü village, Neri hill, steppe, 2300 m, 21 vi 2001, *OK* 1791. Ka.

H. arenarium (L.) Moench subsp. *rubicundum* (K.Koch.) P.H.Davis & Kupicha

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 12 vii 2001, *OK* 2306. Ka. Ir.-Tur.

H. arenarium (L.) Moench subsp. *aucheri* (Boiss.) P.H.Davis & Kupicha

Muradiye, Görecek village surroundings, steppe, 1900 m, 15 vii 2002, *OK* 3455. Ka. END.-LC. Ir.-Tur.

Logfia arvensis (L.) Holub

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1926. T.

Evax anatolica Boiss. & Heldr.

Muradiye, between Görecek village and Derviş plateau, steppe, 2000 m, 15 vii 2002, *OK* 3518. T. Ir.-Tur.

Aster alpinus L.

Muradiye, Akçadağ, N slope of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1759. Hk.

Galatella punctata (Waldst. & Kit Tan) Nees

Muradiye, Görecek village, Şevkii, rocky places, 2300 m, 30 ix 2001, *OK* 2744. Hk. Eux.

Erigeron caucasicus Stev. subsp. *venustus* (Botsch.) Grierson

Muradiye, Görecek village surroundings, humid places, 1900 m, 15 vii 2002, *OK* 3429. Hk.

E. acer L. subsp. *acer*

Muradiye, Saraç district surroundings, meadow, 2188 m, 16 vii 2001, *OK* 2429. Hk.

E. acer L. subsp. *pyncotrichus* (Vierh.) Grierson

Muradiye, Görecek village, Şevkii, rocky places, 2200-2500 m, 08 vii 2001, *OK* 2151. Hk. Euro-Sib.

Conyza canadensis (L.) Cronquist

Muradiye, Ünseli village, Bey district, humid places, 1750 m, 21 x 2001, *OK* 2784. Hk.

Doronicum macrophyllum Fisch. ex Hornem.

Muradiye, Babacan village, Emirgezer stream slope, humid places, 2400 m, 15 vii 2002, *Behçet* 6715. Hk. VU. Eux.

Senecio pseudo-orientalis Schischk.

Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3476. Hk. Ir.-Tur.

S. othonnae M.Bieb.

Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2498. Hk. Euro-Sib.

S. vernalis Waldst. & Kit Tan

Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2498. T.

▲*Calendula arvensis* L.

Erciş, Yukarı Göze district, roadside, 2000 m, 24 vii 2001, *OK* 2466. T.

Anthemis cretica L. subsp. *albida* (Boiss.) Grierson

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1704. Hk.

A. tinctoria L. var. *tinctoria*

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1798. Hk.

A. triumfettii (L.) All.

Muradiye, Babacan village, Emirgezer stream, Hacı cave, steppe, 2400 m, 08 vii 2001, *OK* 2198. Hk.

A. wiedemanniana Fisch. & C.A.Mey.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1914. T. END.-LC.

Achillea vermicularis Trin.

Muradiye, Görecek village, Şevkii, steppe, 2350 m, 15 vii 2002, *OK* 3547. Hk. Ir.-Tur.

A. tenuifolia Lam.

Muradiye, Görecek village surroundings, steppe, 1800 m, 15 vii 2002, *OK* 3423. Hk. Ir.-Tur.

A. millefolium L. subsp. *millefolium*

Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2506. Hk. Euro-Sib.

A. millefolium L. subsp. *pannonica* (Scheele) Hayek

Muradiye, Babacan village, Hacı cave, steppe, 2500 m, 30 ix 2001, *OK* 2760. Hk. Euro-Sib.

A. nobilis L. subsp. *neilreichii* (Kerner) Formánek

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1777. Hk. Euro-Sib.

A. Biebersteinii Afan.

Muradiye, Görecek village surroundings, rocky places, 2000 m, 24 vi 2002, *OK* 3410. Hk. Ir.-Tur.

Tanacetum balsamita L. subsp. *balsamitoides* (Sch.Bip.) Grierson

Muradiye, Saraç district surroundings, meadow, 2000 m, 16 vii 2001, *OK* 2389. Hk.

▲*T. parthenium* (L.) Sch.Bip.

Muradiye, Görecek village, Şevkii, humid places, 2200-2500 m, 08 vii 2001, *OK* 2132. Hk.

T. punctatum (Desr.) Grierson

Muradiye, Babacan village, Hacı cave, Kom stream, humid places, 2400 m, 08 vii 2001, *OK* 2173. Hk. Eux.

T. nitens (Boiss. & Noë) Grierson

Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1762. Hk. END.-LC

▲*T. cadmeum* (Boiss.) Heywood subsp. *cadmeum*

Muradiye, Ünseli village, Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1679. Hk. END.-LC. Ir.-Tur.

T. chiliophyllum (Fisch. & C.A.Mey.) Sch.Bip. var. *chiliophyllum*

Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3494. Kr.

T. chiliophyllum (Fisch. & C.A.Mey.) Sch.Bip. var. *monocephalum* Grierson

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, *OK* 3322. Kr.

T. argyrophyllum (K.Koch) Tzvelev var. *argyrophyllum*

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1775. Ka. Ir.-Tur.

T. argyrophyllum (K.Koch) Tzvelev var. *subvirescens* (DC.) Grierson

Muradiye, S slope of Şeytan bridge, steppe, 2000 m, 27 vii 2001, OK 2570. Ka. Ir.-Tur. elm.,

T. abrotanifolium (L.) Druce

Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, OK 1991. Hk. Ir.-Tur.

Tripleurospermum melanolepis (Boiss. & Buhse) Pobed.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, OK 1546. Kr.

T. oreades (Boiss.) Rech.f. var. *oreades*

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 15 vii 2002, OK 3565. Hk.

T. parviflorum (Willd.) Pobed.

Erciş, Aşağı Kozluca district, roadside, 1700 m, 19 v 2002, OK 2979. T.

T. sevanense (Manden.) Pobed.

Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2300 m, 27 vii 2001, OK 2571. Kr.

T. transcausicum (Manden.) Pobed.

Muradiye, Ünseli village, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, OK 1508. Hk.

T. monticulum (Boiss. & É.Huet) Bornm.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, OK 3324. Hk. END.-LC.

T. decipiens (Fisch. & C.A.Mey.) Bornm

Muradiye, Babacan village surroundings, meadow, 1850 m, 11 ix 2001, OK 2697. Hk.

T. microcephalum (Boiss.) Bornm.

Muradiye, Babacan village surroundings, meadow, 1850 m, 11 ix 2001, OK 2698. Hk. Ir.-Tur.

T. disciforme (C.A.Mey.) Sch.Bip.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 08 vii 2001, OK 2054. Hk. Ir.-Tur.

Artemisia vulgaris L.

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 12 vii 2001, OK 2262. Ka.

A. austriaca J.Jacq.

Erciş, Pay village, steppe, 2200 m, 24 vii 2001, OK 2505. Ka.

A. absinthium L.

Muradiye, Babacan village, Hacı cave, Kom stream surroundings, steppe, 2400 m, 08 vii 2001, OK 2190. Ka.

A. spicigera K.Koch.

Muradiye, Babacan village surroundings, steppe, 1850 m, 11 ix 2001, OK 2709. Ka.

Ir.-Tur.

Gundelia tournefortii L. var. *tournefortii*

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2100 m, 12 vi 2001, OK 1700. Hk.

Arctium tomentosum Mill. var. *glabrum* (Körn.) Arènes

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, OK 2468. Hk.

Cirsium tomentosum C.A.Mey.

Muradiye, Babacan village surroundings, roadside, 1900 m, 11 ix 2001, OK 2704. Hk.

C. lappaceum (M.Bieb.) Fisch. subsp. *anatolicum* Petrak

Muradiye, Görecek village, Şevkii, steppe, 2350 m, 08 vii 2001, OK 2032. Hk. Ir.-Tur.?

C. bracteosum DC.

Muradiye, between Alkasnak and Dürükaş village, steppe, 1800 m, 30 vii 2001, OK 2657. Hk. Ir.-Tur.

C. pseudobracteosum P.H.Davis & Parris

Muradiye, Akçadağ, Ziyaret hill, steppe, 2300 m, 02 ix 2001, OK 2686. Hk. VU. Ir.-Tur.

C. vulgare (Savi) Ten.

Muradiye, Babacan village, Hacı cave, humid places, 2400 m, 30 ix 2001, OK 2763. Hk.

C. simplex C.A.Mey. subsp. *armenum* (DC.) Petr.

Muradiye, Babacan village, Emirgezer stream, streamside, 2100 m, 24 vi 2002, OK 3186. Hk. Eux. (mt.).

▲*C. rhizocephalum* C.A.Mey. subsp. *sinuatum* (Boiss.) P.H.Davis & Parris

Muradiye, Babacan village, Derviş plateau surroundings, meadow, 2400 m, 14 x 2002, OK 3630. Hk.

C. libanoticum DC. subsp. *lycaonicum* (Boiss. & Heldr.) P.H.Davis & Parris

Muradiye, Babacan village, Hacı cave, humid slopes, 2450 m, 08 vii 2001, OK 2172. Hk. END.-LC. E. Medit (mt.).

C. arvense (L.) Scop. subsp. *vestitum* (Wimm. & Grab.) Petr.

Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, OK 2492. Hk.

Picnomon acarna (L.) Cass.

Muradiye, Alkasnak village, Ziyaret hill, steppe, 2300 m, 02 ix 2001, OK 2673. T. Medit.

Carduus nutans L. subsp. *nutans*

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, OK 1900. Hk.

C. hamulosus Ehrh. subsp. *hystrix* (C.A.Mey.) Kazmi

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 23 vi 2002, OK 3175. Hk. Ir.-Tur.

C. pycnocephalus L. subsp. *breviphyllarius* P.H.Davis

Muradiye, Ünseli village, Bey district, meadow, 1800 m, 12 v 2001, OK 1205. Hk. Ir.-Tur.?

▲*Serratula cerinthifolia* (Sm.) Boiss.

Muradiye, Alkasnak village, Gazi Mehmet hill, rocky slopes, 2200 m, 16 vii 2001, OK 2341. Hk. Ir.-Tur.

S. radiata (Waldst. & Kit Tan) M.Bieb. subsp. *biebersteiniana* Iljin ex Grossh.

Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, OK 1992. Hk. Ir.-Tur.

Acroptilon repens (L.) DC.

Muradiye, Muradiye waterfall surroundings, roadside, 1800 m, 12 vii 2001, OK 2319. Hk. Ir.-Tur.

Centaurea virgata Lam.

Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, OK 2619. Ka. Ir.-Tur.

- C. pulchella* Ledeb.
Muradiye, Görecek village surroundings, rocky places, 1950 m, 24 vi 2002, *OK* 3210. T. Ir.-Tur.
- C. saligna* (K.Koch.) Wagenitz
Muradiye, Saraç district surroundings, steppe, 2188 m, 16 vii 2001, *OK* 2427. Hk. END.-LC. Ir.-Tur.
- C. rhizantha* C.A.Mey.
Erciş, Çiriş lake surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3490. Ka. Ir.-Tur.
- C. glastifolia* L.
Erciş, Pay village, steppe, 2000 m, 24 vii 2001, *OK* 2507. Hk. Ir.-Tur.
- C. spectabilis* (Fisch. & C.A.Mey.) Sch.Bip. var. *spectabilis*
Muradiye, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1758. Hk. Ir.-Tur.
- C. behen* L.
Muradiye, Şeytan bridge surroundings, streamside, 1800 m, 27 vii 2001, *OK* 2530. Hk. Ir.-Tur.
- C. polyodiifolia* Boiss. var. *polyodiifolia*
Muradiye, south-west of Babacan village, steppe, 2200 m, 27 vii 2001, *OK* 2606. Hk. Ir.-Tur.
- C. solstitialis* L. subsp. *solstitialis*
Muradiye, Akçadağ, Devetaşı hill, high mountain steppe, 2750 m, 02 ix 2001, *OK* 2669. T.
- C. iberica* Trev. ex Spreng.
Muradiye, Alkasnak village, roadside, 1900 m, 16 vii 2001, *OK* 2343. T.
- C. pseudoscabiosa* Boiss. & Buhse subsp. *pseudoscabiosa*
Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2489. Hk. Ir.-Tur.
- C. pulcherrima* Willd. var. *pulcherrima*
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2002, *OK* 2104. Hk.
- C. triumfetti* All.
Muradiye, Babacan village, roadside, 1800 m, 28 v 2002, *OK* 3012. Hk.
- C. depressa* M.Bieb.
Muradiye, Muradiye waterfall surroundings, fields, 1800 m, 23 vi 2002, *OK* 3152. T.
- Cnicus benedictus* L. var. *benedictus* Boiss.
Erciş, Aşağı Kozluca district, roadside, 1900 m, 19 v 2002, *OK* 2980. T.
- C. benedictus* L. var. *kotschy* Boiss.
Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, *OK* 1974. T.
- Xeranthemum annuum* L.
Muradiye, Alkasnak village, Gazi Mehmet hill, rocky places, 2100 m, 29 x 2000, *OK* 1002. T.
- Echinops pungens* Trautv. var. *pungens*
Muradiye, south-west of Babacan village, steppe, 2200 m, 27 vii 2001, *OK* 2611. Hk. Ir.-Tur.
- Cichorium intybus* L.
Erciş, Aşağı Kozluca district, edges field, 1900 m, 24 vi 2001, *OK* 1883. Hk.
- Scorzonera cana* (C.A.Mey.) Hoffm. var. *jacquiniana* (W.Koch) D.F.Chamb.
Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, *OK* 3205. Hk.
- S. suberosa* K.Koch subsp. *suberosa*
Erciş, Yukarı Göze district, steppe, 2000-2200 m, 19 v 2002, *OK* 2944. Kr. Ir.-Tur.
- S. mollis* M.Bieb. subsp. *mollis*
Muradiye, Açıkyol village surroundings, meadow, 1800-2300 m, 02 v 2001, *OK* 1220. Kr.
- S. mollis* M.Bieb. subsp. *szowitzii* (DC.) D.F.Chamb.
Muradiye, Alkasnak village, steppe, 1800 m, 26 iv 2001, *OK* 1152. Hk. Ir.-Tur.
- S. semicana* DC.
Muradiye, W of Babacan village, steppe, 2000 m, 28 v 2002, *OK* 3069. Kr. END.-LC. Ir.-Tur.
- S. incisa* DC.
Muradiye, Görecek village surroundings, meadow, 1900 m, 24 vi 2002, *OK* 3202. Hk. Ir.-Tur.
- S. latifolia* (Fisch. & C.A.Mey.) DC.
Muradiye, south-west of Babacan village, steppe, 2200 m, 27 vii 2001, *OK* 2615. Hk. Ir.-Tur.
- ▲*Tragopogon pratensis* L. subsp. *orientalis* (L.) Vollm.
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2066. T. Euro-Sib.
- T. buphthalmoides* (DC.) Boiss. var. *buphthalmoides*
Erciş, Yukarı Göze district, steppe, 2100 m, 24 vii 2001, *OK* 2490. Hk. Ir.-Tur.
- T. buphthalmoides* (DC.) Boiss. var. *latifolius* Boiss.
Muradiye, Görecek village, Şevkii, humid places, 2200-2500 m, 08 vii 2001, *OK* 2103. Hk. Ir.-Tur.
- T. reticulatus* Boiss. & É.Huet
Muradiye, Muradiye waterfall surroundings, fields, 1800 m, 23 vi 2002, *OK* 3145. Hk.
- T. aureus* Boiss.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2400 m, 11 vi 2001, *OK* 1639. Hk. END.-LC.
- Leontodon hispidus* L. var. *hispidus*
Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3474. Hk.
- L. asperimus* (Willd.) J.Ball
Muradiye, Kemerköprü village, Neri hill, steppe, 2400 m, 21 vi 2001, *OK* 1794. Hk. Ir.-Tur.
- L. crispus* Vill. subsp. *asper* (Waldst. & Kit Tan) Rohlena var. *setulosus* (Hal.) Kupicha
Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3492. Hk.
- Picris strigosa* M.Bieb.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 2000 m, 21 x 2001, *OK* 2813. Hk. Ir.-Tur.
- Sonchus asper* (L.) Hill subsp. *glaucescens* (Jord.) Ball
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 1900 m, 29 x 2000, *OK* 1006. Hk.
- S. arvensis* L. subsp. *uliginosus* (M. Bieb.) Bég.
Muradiye, Görecek village surroundings, humid places, 1850 m, 11 x 2002, *OK* 3621. Hk.

Hieracium teberdense (Litw. & Zahn)
Juxip

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2000 m, 11 ix 2001, *OK* 2725. Hk. Eux.

▲*H. umbellatum* L.

Muradiye, Şeytan bridge surroundings, stony slopes, 2200 m, 27 vii 2001, *OK* 2548. Hk.

Pilosella hoppeana (Schultes)
C.H.Schultz & F.W.Schultz subsp. *pilisquama*
(N.P.) P.D.Sell & West

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2097. Hk.

P. x fallax (Willd.) Arv.-Touv.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2010. Hk.

P. echioides (Lumn.) C.H.Schultz & F.W.Schultz. subsp. *procera* (Fries) Sell & West

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 1952. Hk.

P. x auriculoides (A.F.Láng) Sell & West

Muradiye, between Görecek village and Derviş plateau, roadside, 2100 m, 15 vii 2002, *OK* 3521. Hk.

P. x maschukensis (Litw. & Zahn) Soják

Muradiye, Saraç district surroundings, meadow, 2000 m, 16 vii 2001, *OK* 2394. Hk.

P. verruculata (Link) Soják

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2019. Hk.

Cicerbita adenophora (Boiss. & Kotschy) Beauverd

Muradiye, Görecek village surroundings, wet places, 1950 m, 24 vi 2001, *OK* 3207. Hk. Ir.-Tur.

C. mulgedioides (Sch.Bip. ex Vis. & Pan?) Beauverd

Muradiye, Babacan village, Hacı cave, humid slopes, 2400 m, 08 vii 2001, *OK* 2253. Hk.

Lactuca serriola L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2354. Hk. Euro-Sib.

Scariola orientalis (Boiss.) Soják

Muradiye, Saraç village surroundings, steppe, 2188 m, 16 vii 2001, *OK* 2426 Hk. Ir.-Tur.

Lapsana communis L. subsp. *adenophora* (Boiss.) Rech.f.

Muradiye, Görecek village, Şevkii, humid slopes, 2200-2500 m, 08 vii 2001, *OK* 2035. Hk.

L. communis L. subsp. *intermedia*
(M.Bieb.) Hayek

Muradiye, Görecek village, Şevkii, humid slopes, 2200-2500 m, 08 vii 2001, *OK* 2150. Hk.

Taraxacum bessarabicum (Hornem.)
Hand.-Mazz. subsp. *bessarabicum*

Muradiye, Akçadağ, W of Ziyaret hill, meadow, 2200 m, 16 v 2001, *OK* 1342. Hk.

T. serotinum (Waldst. & Kit Tan) Poir.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2340. Hk.

T. montanum (C.A.Mey.) DC.

Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2300 m, 27 vii 2001, *OK* 2599. Hk.

T. crepidiforme DC. subsp. *crepidiforme*

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 15 vii 2002, *OK* 3564. Hk. Ir.-Tur.

T. scaturiginosum G.E.Haglund

Muradiye, Muradiye waterfall surroundings, meadow, 1900 m, 05 v 2002, *OK* 2872. Hk.

T. macrolepium Schischk.

Muradiye, Ünseli village, Bey district, meadow, 1700 m, 19 v 2002, *OK* 2962. Hk.

T. androssovii Schischk.

Muradiye, Ünseli village, Akçadağ, streamside, 2100 m, 31 3 2002, *OK* 2831. Hk.

T. davisii van Soest

Muradiye, Görecek village surroundings, meadow, 1800 m, 05 v 2002, *OK* 2890. Hk. END.-EN.

Chondrilla juncea L. var. *juncea*

Muradiye, Babacan village surroundings, meadow, 1800 m, 11 ix 2001, *OK* 2700. Hk.

Crepis pannonica (J.Jacq.) K.Koch.

Muradiye, between Görecek village and Derviş plateau, roadside, 2000 m, 15 vii 2002, *OK* 3520. T.

C. foetida L. subsp. *rhoeadifolia*
(M.Bieb.) Celak.

Muradiye, Görecek village surroundings, edges field, 1900 m, 15 vii 2002, *OK* 3424. T.

C. foetida L. subsp. *commutata*
(Spreng.) Babc.

Muradiye, Görecek village, Şevkii, humid slopes, 2200-2500 m, 08 vii 2001, *OK* 2133. T.

C. sancta (L.) Babc.

Erciş, Yukarı Kozluca district, humid places, 2050 m, 30 vi 2001, *OK* 2006. T.

CAMPANULACEAE

Campanula glomerata L. subsp. *hispida*
(Witasek) Hayek

Muradiye, Babacan village, Emirgezer stream, humid slopes, 2400 m, 15 vii 2002, *Behçet* 6722. Hk. Euro-Sib.

C. involocrata Aucher ex A.DC.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, *OK* 3317. Hk. Ir.-Tur.

C. radula Fisch.

Muradiye, Babacan village, Hüseyin Kom stream, shady and humid crevices of rocks, 2300 m, 27 vii 2001, *OK* 2566. Muradiye, N of Görecek village, arid crevices of rocks, 2300 m, 15 vii 2002, *Behçet* 6695. Hk.

C. stricta L. subsp. *stricta*

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2078. Hk. Ir.-Tur.

C. stevenii M.Bieb. subsp. *stevenii*

Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, *OK* 1446. Hk. H. Eux.

C. stevenii M.Bieb. subsp. *beauverdiana*
(Fomin) Rech.f. & Schiman-Czeika

Muradiye, Akçadağ, Gazi Mehmet hill, steppe, 2300 m, 04 vi 2001, *OK* 1535. Hk. Ir.-Tur.

Asyneuma amplexicaule (Willd.) Hand.-Mazz. subsp. *amplexicaule* var. *angustifolium* (Boiss.) Bornm.

Muradiye, Saraç district surroundings, steppe, 2150 m, 16 vii 2001, *OK* 2423. Hk. Ir.-Tur.

A. amplexicaule (Willd.) Hand.-Mazz. subsp. *aucheri* (A.DC.) Bornm.

Muradiye, Babacan village, Derviş plateau, Hacı cave surroundings, steppe, 2400-2500 m, 08 vii 2001, *OK* 2254. Hk. Ir.-Tur.

A. filipes (Nábelek) Damboldt

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2055. Hk. Ir.-Tur.

A. rigidium (Willd.) Grossh. subsp. *rigidium*

Muradiye, Şeytan bridge surroundings, humid places, 1900 m, 27 vii 2001, *OK* 2547. Hk. Ir.-Tur.

PRIMULACEAE

Primula veris L. subsp. *macrocalyx* (Bunge) Lüdi

Muradiye, Ünseli village, S slope of Akçadağ, meadow, 2600 m, 12 v 2001, *OK* 1280. Hk. Euro-Sib.

P. auriculata Lam.

Muradiye, E of Babacan village, meadow, 2000 m, 29 v 2002, *OK* 3107. Kr. Ir.-Tur.

Androsace maxima L.

Erciş, Yukarı Göze district, steppe, 2000-2200 m, 19 v 2002, *OK* 2947. T.

Lysimachia vulgaris L.

Muradiye, Alkasknak village, streamside, 1900 m, 16 vii 2001, *OK* 2366. Hk.

Anagallis arvensis L. var. *caerulea* (L.) Gouan

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1900 m, 11 vi 2001, *OK* 1620. Hk.

OLEACEAE

Fraxinus angustifolia Vahl subsp. *syriaca* (Boiss.) Yalt.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2451. Fa. Ir.-Tur.

**Syringa vulgaris* L.

Muradiye, Ünseli village, Bey district, meadow, 1800 m, 12 v 2001, *OK* 1266. Fa.

GENTIANACEAE

Centaurium erythraea Rafn subsp. *turcicum* (Velen.) Melderis

Erciş, Yukarı Kozluca district, humid places, 2250 m, 24 vi 2001, *OK* 1925. Hk.

CONVOLVULACEAE

Convolvulus lineatus L.

Muradiye, Kemerköprü village, Neri hill, steppe, 2000 m, 21 vi 2001, *OK* 1873. Ka.

▲*C. siculus* L. subsp. *siculus*

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 21 x 2001, *OK* 2806. T. Medit. *C. arvensis* L.

Muradiye, Şeytan bridge surroundings, edges field, 1800 m, 29 v 2001, *OK* 1389. Hk.

CUSCUTACEAE

Cuscuta campestris Yuncker

Muradiye, Görecek village surroundings, on *Medicago sativa*, 1750 m, 12 x 2002, *OK* 3625. T.

C. planiflora Ten.

Muradiye, side of Lake Van, on *Medicago x varia*, 1700 m, 30 vii 2001, *OK* 2635. T.

BORAGINACEAE

Heliotropium dolosum De Not.

Muradiye, between Alkasknak and Dürükaş village, steppe, 1800 m, 30 vii 2001, *OK* 2652. T.

Lappula barbata (M.Bieb.) Gürke

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 23 vi 2002, *OK* 3171. Hk. Ir.-Tur.

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

Muradiye, Akçadağ, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1689. T.

R. disperma (L.f.) K.Koch var. *microcalycina* (Bornm.) J.R.Edm.

Muradiye, Alkasknak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2339. T. END.?-LC. Ir.-Tur.

Asperugo procumbens L.

Muradiye, Babacan village, roadside, 1900 m, 28 v 2002, *OK* 2893. T. Euro-Sib.

Myosotis ramosissima Rochel ex Schult. subsp. *ramosissima*

Muradiye, Akçadağ, W of Ziyaret hill, meadow, 2200 m, 16 v 2001, *OK* 1336. T.

M. stricta Link ex Roemer & Schult.

Muradiye, Açıkyol village surroundings, steppe, 1950 m, 02 v 2001, *OK* 1210. T. Euro-Sib.

M. sylvatica Ehrh. ex Hoffm. subsp. *rivularis* Vesterg.

Muradiye, Babacan village, Hacı cave, humid slopes, 2400 m, 30 ix 2001, *OK* 2768. T. H. Eux. (mt.)

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

Muradiye, Ünseli village, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, *OK* 1505. Hk.

M. sicula Guss.

Muradiye, Babacan village, W of Derviş plateau, meadow, 2500 m, 15 vii 2002, *OK* 3449. T.

M. propinqua Fisch. & C.A.Mey. ex DC.

Muradiye, Kemerköprü village, Neri hill, humid places, 2000 m, 21 vi 2001, *OK* 1803. Hk. Eux. (mt.)?

M. platyphylla Boiss.

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3073. Kr. END.-VU. Ir.-Tur.

Paracaryum cristatum (Schreb.) Boiss. subsp. *carduchorum* R.R.Mill

Muradiye, Alkasknak village, W of Ziyaret hill, steppe, 2300 m, 12 vi 2001, *OK* 1708. Hk. Ir.-Tur.

Rindera lanata (Lam.) Bunge var. *lanata*

Muradiye, Alkasknak village, W of Ziyaret hill, steppe, 2300 m, 12 vi 2001, *OK* 1697. Hk.

R. lanata (Lam.) Bunge var. *canescens* (A.DC.) Kusn.

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1801. Hk. Ir.-Tur.

R. albida (Wettst.) Kusn.

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3072. Hk. Ir.-Tur.

Solenanthes stamineus (Desf.) Wettst.

Muradiye, Ünseli village, N slope of Akçadağ, meadow, 2600 m, 02 vi 2001, *OK* 1504. Hk.

Cynoglossum vanense Sutory

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3076. Hk. END.-NT.

Buglossoides arvensis (L.) Johnston

Erciş, Yukarı Kozluca district, humid rocky places, 2300 m, 14 iv 2002, *OK* 2843. T.

Neatostema apulum (L.) Johnston

Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3359. T. Medit.

Echium italicum L.

Erciş, Aşağı Kozluca district, roadside, 1900 m, 24 vi 2001, *OK* 1890. Hk. Medit.

Onosma rechingeri Riedl

Muradiye, Görecek village surroundings, steppe, 1900 m, 24 vi 2002, *OK* 3200. Hk. Ir.-Tur.

O. sericeum Willd.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1906. Ka. Ir.-Tur.

O. polioxanthum Rech.f.

Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 24 vi 2002, *OK* 3252. Hk. END.-LC. Ir.-Tur.

O. lanceolatum Boiss. & Hausskn.

Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3320. Hk. Ir.-Tur.

O. nemoricolum Hausskn. & Bornm. ex Bornm.

Muradiye, Kemerköprü village, Neri hill, steppe, 2450 m, 21 vi 2001, *OK* 1805. Hk. Ir.-Tur.

▲O. argentatum Hub.-Mor.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2400 m, 16 v 2001, *OK* 1311. Hk. END.-VU. Ir.-Tur.

O. tenuiflorum Willd.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2400 m, 16 v 2001, *OK* 1312. Ka. Ir.-Tur.

O. isauricum Boiss. & Heldr.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2107. Hk. END.-LC. Ir.-Tur.

O. bracteosum Hausskn. & Bornm.

Muradiye, Ünseli village, S slopes of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1631. Ka. END.-LC. Ir.-Tur.

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

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3075. Hk.

Anchusa azurea Mill. var. *azurea*

Erciş, Aşağı Kozluca district, fields, 1900 m, 24 vi 2001, *OK* 1905. Hk.

A. strigosa Labill.

Muradiye, Şeytan bridge surroundings, edges field, 1800 m, 29 v 2001, *OK* 1394. Hk.

A. arvensis (L.) M.Bieb. subsp. *orinetalis* (L.) Nordh.

Muradiye, Ünseli village, Bey district, humid places, 1750 m, 12 v 2001, *OK* 1252. Hk.

Nonea pulla (L.) DC. subsp. *scabrisquamata* A.Baytop.

Muradiye, Görecek village surroundings, meadow, 1900 m, 13 vi 2002, *OK* 3123. Hk. Ir.-Tur.

Alkanna orientalis (L.) Boiss. var. *orientalis*

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1955. Hk. Ir.-Tur.

SOLANACEAE**Solanum nigrum** L. subsp. *nigrum*

Muradiye, Ünseli village, Bey district, roadside, 1800 m, 21 x 2001, *OK* 2782. T.

S. dulcamara L.

Muradiye, Muradiye waterfall surroundings, streamside, 1900 m, 12 vii 2001, *OK* 2311. Fa. Euro-Sib.

***S. tuberosum** L.

Muradiye, Alkasnak village, fields, 1800 m, 16 vii 2001, *OK* 2322. Kr.

Hyoscyamus niger L.

Muradiye, Açıkyol village surroundings, rocky places, 2000 m, 02 v 2001, *OK* 1229. Hk.

H. reticulatus L.

Muradiye, Babacan village, roadside, 1800 m, 28 v 2002, *OK* 3014. Hk. Ir.-Tur.

SCROPHULARIACEAE**Verbascum phoeniceum** L.

Muradiye, E of Babacan village, steppe, 2000 m, 29 v 2001, *OK* 3109. Hk.

▲V. lachnopus Hub.-Mor.

Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3333. Hk. END.-EN. Eux.

V. vanense Hub.-Mor.

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1788. Hk. END.-LC. Ir.-Tur.

▲V. geminiflorum Hochst.

Erciş, Yukarı Kozluca district, steppe, 2200 m, 30 vi 2001, *OK* 2031. Hk. VU. Ir.-Tur.

V. asperuloides Hub.-Mor.

Muradiye, Kemerköprü village, Neri hill, steppe, 2300 m, 21 vi 2001, *OK* 1788. Hk. END.-LC. Ir.-Tur.

Scrophularia chrysantha Jaub. & Spach

Erciş, Tırmıklı district surroundings, rocky places, 2100 m, 19 v 2002, *OK* 2967. Hk. Eux.

S. ilwensis K.Koch

Muradiye, Babacan village, steppe, 1950 m, 28 v 2002, *OK* 3091. T. Ir.-Tur.

S. chlorantha Kotschy & Boiss.

Muradiye, Babacan village, Emirgezer stream, humid slopes, 2400 m, 15 vii 2002, *Behçet* 6721. Hk. Ir.-Tur.

S. rimarum Bornm.

Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1756. Hk.

S. lucida L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2337. Hk. Med.?

S. cinerascens Boiss.

Muradiye, Alkasnak village, W of Ziyaret hill, rocky places, 2400 m, 16 v 2001, *OK* 1309. Hk.

Linaria kurdica Boiss. & Hohen. subsp. **kurdica**

Muradiye, Babacan village surroundings, steppe, 1850 m, 11 ix 2001, *OK* 2694. Hk. Ir.-Tur.

L. kurdica Boiss. & Hohen. subsp. **araratica** (Tzvelev) P.H.Davis

Muradiye, Görecek village, Şevkii, steppe, 2300 m, 30 ix 2001, *OK* 2752. Hk. Ir.-Tur.

L. kurdica Boiss. & Hohen. subsp. **pyncnophylla** (Boiss. & Bal.) P.H.Davis

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1949. Hk. Ir.-Tur.

L. pyramidata (Lam.) Spreng.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1733. Hk. Ir.-Tur.

L. simplex (Willd.) DC.

Muradiye, Ünseli village surroundings, rocky places, 2350 m, 29 v 2001, *OK* 1379. T.

L. pelisseriana (L.) Mill.

Muradiye, Ünseli village, S slope of Akçadağ, stony places, 1900 m, 11 vi 2001, *OK* 1603. T. Medit.

Limosella aquatica L.

Muradiye, Babacan village, Derviş plateau, marshy places, 2400 m, 15 vii 2002, *Behçet* 6701. T.

Pseudolysimachion longifolium (L.) Opiz

Muradiye, Alkasnak village, streamside, 1900 m, 16 vii 2001, *OK* 2335. Hk. Euro-Sib.

Veronica serpyllifolia L.

Muradiye, E of Babacan village, meadow, 2000 m, 29 v 2001, *OK* 3108. Hk.

V. bozakmanii M.A.Fisch.

Muradiye, Akçadağ, E slopes of Hachalit hill, steppe, 2200 m, 26 iv 2001, *OK* 1171. T. Ir.-Tur.

V. pusilla Kotschy var. **pusilla**

Muradiye, Babacan village, W of Derviş plateau, meadow, 2500 m, 15 vii 2002, *OK* 3450. Hk. Ir.-Tur.

▲**V. triphyllus** L.

Erciş, Aşağı Kozluca district, steppe, 1900 m, 14 iv 2002, *OK* 2847. T.

V. biloba Schreb.

Muradiye, Babacan village, Hacı cave, steppe, 2400 m, 24 vi 2002, *OK* 3242. T. Ir.-Tur.

V. bornmuelleri Hausskn.

Muradiye, Babacan village, roadside, 1900 m, 28 v 2002, *OK* 3008. T. Ir.-Tur.

V. intercedens Bornm.

Muradiye, Alkasnak village, Gazi Mehmet hill, 2200 m, 04 vi 2001, *OK* 1556. T. Ir.-Tur.

V. polita Fr.

Muradiye, Ünseli village surroundings, steppe, 1850 m, 19 v 2002, *OK* 2920. T.

V. persica Poir.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 21 x 2001, *OK* 2781. T.

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

Muradiye, Alkasnak village, streamside, 1800 m, 29 x 2000, *OK* 1018. Hk.

V. anagallis-aquatica L. subsp. **lysimachioides** (Boiss.) M.A.Fisch.

Muradiye, Alkasnak village, Gazi Mehmet hill, streamside, 2400 m, 04 vi 2001, *OK* 1558. Hk.

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

Muradiye, Alkasnak village, Ziyaret hill surroundings, in the water, 1900 m, 02 ix 2001, *OK* 2675. Hk.

V. scardica Griseb.

Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, *OK* 2171. Hk.

V. beccabunga L. subsp. **abscondita** M.A.Fisch.

Muradiye, Babacan village, W of Derviş plateau, in the water, 2500 m, 15 vii 2002, *OK* 3451. Hk.

V. orientalis Mill. subsp. **orientalis**

Muradiye, Açıkyol village surroundings, steppe, 2000 m, 02 v 2001, *OK* 1208. Ka.

V. orientalis Mill. subsp. **carduchorum** P.H.Davis ex M.A.Fisch.

Muradiye, Ünseli village, N slopes of Akçadağ, steppe, 2500 m, 02 vi 2001, *OK* 1506. Ka. END.-NT. Ir.-Tur.

Lagotis stolonifera (K.Koch) Maxim.

Erciş, Yukarı Göze district surroundings, wet places, 1950 m, 19 v 2002, *OK* 2949. Ka. Ir.-Tur.

Odontites aucheri Boiss.

Muradiye, Görecek village, Şevkii, meadow, 2200-2500 m, 08 vii 2001, *OK* 2093. Ir.-Tur. T.

O. glutinosa (M.Bieb.) Benth

Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2380. T.

Pedicularis pontica Boiss.

Muradiye, N slope of Akçadağ, meadow, 2700 m, 02 vi 2001, *OK* 1509. Hk. Eux.

P. comosa L. var. **sibthorpii** (Boiss.) Boiss.

Muradiye, Şeytan bridge surroundings, steppe, 2300 m, 29 v 2001, *OK* 1436. Hk.

P. comosa L. var. **acmodonta** (Boiss.) Boiss.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, *OK* 3329. Hk.

Rhynchocorys kurdica Nabelek

Muradiye, Babacan village, Hacı cave, streamside, 2400 m, 08 vii 2001, *OK* 2195. Hk. END.-NT. Ir.-Tur.

OROBANCHACEAE

Phelypaea coccinea (M.Bieb.) Poir.

Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2100 m, 28 v 2002, *OK* 3038. Hk. Ir.-Tur.

Orobanche aegyptiaca Pers.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, *OK* 3376. Hk.

O. schultzei Mutel

Muradiye, Ünseli village, Bey district, steppe, 1800 m, 21 x 2001, *OK* 2779. T. Medit. **O. cilicica** Beck

Muradiye, Görecek village, Şevkii, steppe, 2200 m, 24 vi 2002, *OK* 3387. T.

O. caesia Reichb.

Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, *OK* 3193. T.

O. arenaria Borkh.

Muradiye, Babacan village, Hacı cave, slopes, 2400 m, 24 vi 2002, *OK* 3247. T.

- O. lutea* Baumg.
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1584. T.
- O. elatior* Sutton
Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2300 m, 27 vii 2001, *OK* 2610. T.
- O. armena* Tzvelev
Muradiye, Muradiye waterfall surroundings, fields, 1800 m, 23 vi 2002, *OK* 3139. T. END.-EN. Ir.-Tur.
- ACANTHACEAE**
Acanthus dioscoridis L. var. *dioscoridis*
Erciş, Yukarı Kozluca district, steppe, 2250 m, 30 vi 2001, *OK* 2024. Hk.
- GLOBULARIACEAE**
Globularia trichosantha Fisch. & C.A.Mey.
Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1835. Hk.
- LAMIACEAE (LABIATAE)**
Ajuga chamaepitys (L.) Schreb. subsp. *chia* (Schreb.) Arcang. var. *chia*
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1910. Hk.
- Teucrium orientale* L. var. *orientale*
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 16 vii 2001, *OK* 2327. Hk. Ir.-Tur.
- T. orientale* L. var. *puberulens* Ekim
Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK* 2068. Hk. Ir.-Tur.
- T. orientale* L. var. *glabrescens* Hausskn. ex Bornm.
Muradiye, Akçadağ, Deveta?ı hill, high mountain steppe, 2700 m, 02 ix 2001, *OK* 2662. Ka. Ir.-Tur.
- T. chamaedrys* L. subsp. *chamaedrys*
Muradiye, Şeytan village surroundings, steppe, 1900-2400 m, 30 vi 2001, *OK* 1976, Hk. Euro-Sib.
- T. chamaedrys* L. subsp. *sypirensis* (C.Koch) Rech.f.
Muradiye, Babacan village, Hüseyin Kom stream slopes, steppe/rocky places, 2300 m, 27 vii 2001, *OK* 2605. Ka. Ir.-Tur.
- T. chamaedrys* L. subsp. *sinuatum* (Celak.) Rech.f.
Muradiye, south-west of Babacan village, steppe, 2300 m, 27.07.2001, *OK* 2609. Ka. Ir.-Tur.
- T. polium* L.
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2624. Ka.
- Scutellaria galericulata* L.
Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2300 m, 27 vii 2001, *OK* 2587. Hk.
- S. orientalis* L. subsp. *virens* (Boiss. & Kotschy) J.R.Edm.
Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 1995. Ka. Ir.-Tur.
- S. orientalis* L. subsp. *sosnowskyi* (Takht.) Fed.
Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1690. Ka. Ir.-Tur.
- S. orientalis* L. subsp. *alpina* (Boiss.) O.Schwarz var. *glandulosissima* O.Schwarz
Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, *OK* 3390. Ka. END.-NT.
- S. orientalis* L. subsp. *pichleri* (Stapf) J.R.Edm.
Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, *OK* 1456. Ka. Ir.-Tur.
- Phlomis tuberosa* L.
Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2400 m, 21 vi 2001, *OK* 1750. Kr.
- ▲*P. pungens* Willd. var. *hispida* Hub.-Mor.
Muradiye, Kemerköprü village, Neri hill, steppe, 2400 m, 21 vi 2001, *OK* 1808. Hk.
- P. armeniaca* Willd.
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2330. Ka. END.-LC. Ir.-Tur.
- P. kurdica* Rech.f.
Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2629. Ka. Ir.-Tur.
- Lamium garganicum* L. subsp. *reniforme* (Montbret & Aucher ex Benth.) R.R.Mill
Muradiye, Babacan village, Emirgezer stream, humid slopes, 2400 m, 15 vii 2002, *Behçet* 6723. Hk.
- L. amplexicaule* L.
Muradiye, Akçadağ, E of Hacihalit hill, steppe, 2000-2600 m, 26 iv 2001, *OK* 1159. T. Euro-Sib.
- L. macrodon* Boiss. & É.Huet
Muradiye, Alkasnak village surroundings, steppe, 1800 m, 26 iv 2001, *OK* 1149. T. Ir.-Tur.
- L. album* L.
Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3312. Hk. Euro-Sib.
- Leonurus glaucescens* Bunge
Erciş, around primary school, Pay village, stony places, 2100 m, 24 vii 2001, *OK* 2504. Hk. Ir.-Tur.
- Marrubium cordatum* Nábelek
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1583. Hk.
- Stachys spectabilis* Choisy ex DC.
Muradiye, Muradiye waterfall surroundings, streamside, 1800 m, 12 vii 2001, *OK* 2321. Hk. Ir.-Tur.
- S. lavandulifolia* Vahl var. *lavandulifolia*
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1661. Ka. Ir.-Tur.
- S. lavandulifolia* Vahl var. *brachyodon* Boiss.
Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 15 vii 2002, *OK* 3543. Ka. Ir.-Tur.
- S. lavandulifolia* Vahl var. *glabrescens* R.Bhattacharjee & Hub.-Mor.
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 1800 m, 04 vi 2001, *OK* 1561. Ka. Ir.-Tur.
- S. iberica* M.Bieb. subsp. *georgica* Rech.
Muradiye, Babacan village, Hacı cave slopes, steppe, 2400 m, 08 vii 2001, *OK* 2228. Ka. Ir.-Tur.
- S. annua* (L.) L. subsp. *annua* var. *annua*
Muradiye, Babacan village, Hacı cave, steppe, 2400 m, 24 vi 2002, *OK* 3244. Hk.

S. ramosissima Montbret & Aucher ex Benth var. *ramosissima*

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, OK 1607. T. END.-NT. Ir.-Tur.

S. macrostachya (Wend.) Briq.

Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, OK 2067. Hk. Eux.

Nepeta nuda L. subsp. *albiflora* (Boiss.) Gams

Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, OK 1752. Hk.

N. transcaucasica Grossh.

Muradiye, Şeytan bridge surroundings, steppe/rocky places, 2300 m, 29 v 2001, OK 1437. Hk. Ir.-Tur.

N. betonicifolia C.A.Meyer

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, OK 3396. Hk. Ir.-Tur.

N. stanantha Kotschy & Boiss. ex Boiss.

Muradiye, between Görecek village and Derviş plateau, steppe, 2000 m, 15 vii 2002, OK 3510. Hk. Ir.-Tur.

Lallemantia peltata (L.) Fisch. & C.A.Mey.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 04 vi 2001, OK 1553. T. Ir.-Tur.

Prunella vulgaris L.

Muradiye, Saraç village surroundings, meadow, 1900 m, 16 vii 2001, OK 2378. Hk. Euro-Sib.

Acinos rotundifolius Pers.

Muradiye, Görecek village, Şevkii, steppe, 2300 m, 24 vi 2002, OK 3367. T.

Thymus fallax Fisch. & Mey.

Erciş, Yukarı Kozluca district, steppe, 2100 m, 30 vi 2001, OK 2016. Ka. Ir.-Tur. Det.: B. Yıldız

T. kotschyanus Boiss. & Hohen. subsp. *kotschyanus*

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, OK 1627. Ka. Ir.-Tur.

T. kotschyanus Boiss. & Hohen. subsp. *glabrescens* Boiss.

Muradiye, Kemerköprü village, Neri hill, steppe, 2250 m, 21 vi 2001, OK 1815. Ka. Ir.-Tur.

T. fedtschenkoi Ronniger var. *handelii* (Ronniger) Jalas

Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, OK 3489. Ka. END.-NT. Ir.-Tur. Det.: B. Yıldız

T. pubescens Boiss. & Kotschy ex Celak var. *pubescens*

Muradiye, Babacan village, Hacı cave, steppe, 2500 m, 30 ix 2001, OK 2770. Ka.

T. praecox Opiz subsp. *caucasicus* (Ronniger) Jalas var. *grossheimii*

Muradiye, Akçadağ, E of Hachalit hill, steppe, 2600 m, 26 iv 2001, OK 1165. Ka. Det.: B. Yıldız

Mentha longifolia (L.) Huds. subsp. *longifolia*

Muradiye, Saraç village surroundings, streamside, 2188 m, 16 vii 2001, OK 2416. Hk.

M. longifolia (L.) Huds. subsp. *typhoides* (Briq.) Harley var. *typhoides*

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2050 m, 11 ix 2001, OK 2722. Hk.

Ziziphora clinopodioides Lam.

Muradiye, Saraç district surroundings, steppe, 2150 m, 16 vii 2001, OK 2417. Ka.

Z. capitata L.

Muradiye, Babacan village, stony places, 1900 m, 28 v 2002, OK 2988. T. Ir.-Tur.

Z. persica Bunge

Muradiye, Ünseli village, Arnis plateau surroundings, steppe, 2350 m, 29 v 2001, OK 1382a. T. Ir.-Tur.

Salvia multicaulis Vahl

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2300 m, 12 vi 2001, OK 1724. Hk. Ir.-Tur.

S. brachyantha (Bordz.) Pobed

Muradiye, Babacan village, roadside, 1800 m, 28 v 2002, OK 3015. Hk. Ir.-Tur. Appr.: I.C.Hedge

S. pocolata Nábelek

Muradiye, Babacan village, W of Derviş plateau, steppe, 2500 m, 15 vii 2002, OK 3448. Hk. Ir.-Tur. Appr.: I.C.Hedge

S. limbata C.A.Mey.

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 23 vi 2002, OK 3167. Hk. Ir.-Tur.

S. staminea Montbret & Aucher ex Benth

Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, OK 1753 Hk. Ir.-Tur. Appr.: I.C.Hedge

S. virgata Jacq.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, OK 2455. Hk. Ir.-Tur.

S. nemorosa L.

Muradiye, Kemerköprü village, Neri hill, steppe, 2300 m, 21 vi 2001, OK 1812. Hk.

S. verticillata L. subsp. *verticillata*

Muradiye, Babacan village, Hacı cave, steppe, 2400 m, 08 vii 2001, OK 2192. Hk. Euro-Sib.

PLUMBAGINACEAE

Plumbago europaea L.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2300 m, 02 ix 2001, OK 2683. Hk. Euro-Sib.

▲*Acantholimon venustum* Boiss. var. *assyriacum* (Boiss.) Boiss.

Muradiye, Babacan village, Derviş plateau surroundings, steppe, 2400 m, 14 x 2002, OK 3631. Ka. END.-VU. Ir.-Tur.

A. acerosum (Willd.) Boiss. var. *acerosum*

Erciş, Yukarı Kozluca district, steppe, 2250 m, 30 vi 2001, OK 2015. Ka. Ir.-Tur.

A. calvertii Boiss. var. *calvertii*

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, OK 2056. Ka. END.-LC. Ir.-Tur.

PLANTAGINACEAE

Plantago major L. subsp. *intermedia* (Gilib.) Lange

Muradiye, Babacan village, Hüseyin Kom stream, streamside, 2050 m, 11 ix 2001, OK 2721. Hk.

P. media L.

Muradiye, W of Babacan village, wet places, 2200 m, 28 v 2002, *OK* 3080. Hk.

P. atrata Hoppe

Muradiye, E of Babacan village, steppe, 2000 m, 29 v 2002, *OK* 3114. Hk.

P. lanceolata L.

Muradiye, Kemerköprü village, Neri hill, steppe, 2200 m, 21 vi 2001, *OK* 1837. Hk.

EUPHORBACEAE

Euphorbia szovitsii Fisch. & C.A.Mey. var. *szovitsii*

Erciş, Aşağı Kozluca district, steppe, 1900 m, 24 vi 2001, *OK* 1893. T.

E. falcata L. subsp. *falcata* var. *galilaea* (Boiss.) Boiss.

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1633. T.

E macroclada Boiss.

Erciş, Deredam district, steppe, 2000 m, 30 vii 2001, *OK* 2617. Hk. Ir.-Tur.

E. cheiradenia Boiss. & Hohen.

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1919. Hk. Ir.-Tur.

▲E. terracina L.

Muradiye, Babacan village, Hacı cave slope, steppe, 2400-2500 m, 08 vii 2001, *OK* 2245. Hk. Medit.

E. heteradena Boiss.

Muradiye, Alkasnak village, Gazi Mehmet hill, rocky places, 1900 m, 21 x 2000, *OK* 1037. Hk. Ir.-Tur.

E. virgata Waldst. & Kit Tan

Erciş, Pay village, steppe, 2000 m, 24 vii 2001, *OK* 2503. Hk.

URTICACEAE**Urtica dioica** L.

Muradiye, Görecek village, Şevkii, humid places, 2200-2500 m, 08 vii 2001, *OK* 2166. Hk. Euro-Sib.

Parietaria judaica L.

Muradiye, Kemerköprü village, Neri hill, steppe, 2300 m, 21 vi 2001, *OK* 1866. Hk.

JUGLANDACEAE***Juglans regia** L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 16 vii 2001, *OK* 2357. Fa.

BETULACEAE***Betula pendula** Roth.

Muradiye, Şeytan bridge surroundings, forest place, 1800 m, 27 vii 2001, *OK* 2528. Fa.

SALICACEAE**Salix alba** L.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2452. Fa. Euro-Sib.

S. caprea L.

Babacan village, Hüseyin Kom stream, streamside, 2000 m, 28 v 2002, *OK* 3039. Fa. Euro-Sib.

Populus alba L.

Muradiye, Muradiye waterfall surroundings, meadow, 1800 m, 12 vii 2001, *OK* 2260. Fa. Euro-Sib.

P. tremula L.

Muradiye, Babacan village, Hacı cave, forest place, 2250 m, 08 vii 2001, *OK* 2251. Fa. Euro-Sib.

RUBIACEAE

Crucianella exasperata Fisch. & C.A.Mey.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2363. T. Ir.-Tur.

Asperula laxiflora Boiss.

Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3487. Ka. Eux.(mt.).

A. arvensis L.

Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 24 vi 2002, *OK* 3254. T. Medit.

Galium verum L. subsp. *verum*

Erciş, Yukarı Kozluca district, steppe, 2250 m, 30 vi 2001, *OK* 2009. Ka. Euro-Sib.

G. verum L. subsp. *glabrescens* Ehrend.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2454. Ka. Ir.-Tur.?

G. mite Boiss. & Hohen.

Muradiye, Görecek village, Şevkii, steppe/rocky slopes, 2350 m, 15 vii 2002, *OK* 3540. Ka. Ir.-Tur.

G. psilophyllum Ehrend. & Schönb.-Tem.

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1713. Ka. Ir.-Tur.

G. incanum Sm. subsp. *elatius* (Boiss.) Ehrend.

Muradiye, Kemerköprü village, Neri hill, steppe, 1900 m, 21 vi 2001, *OK* 1865. Ka. Ir.-Tur.

G. spurium L. subsp. *spurium*

Muradiye, Babacan village, steppe, 2000 m, 28 v 2002, *OK* 3058. T. Euro-Sib.

G. spurium L. subsp. *ibicinum* (Boiss. & Hausskn. ex Boiss.) Ehrend.

Muradiye, Babacan village, Hacı cave, steppe, 2400 m, 24 vi 2002, *OK* 3238. T. Ir.-Tur.

G. tricornutum Dandy

Muradiye, Babacan village, roadside, 1800 m, 28.05.2002, *OK* 3016. T. Medit.

Callipeltis cucullaria (L.) Steven

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2004. T. Ir.-Tur.

Cruciata taurica (Pall. ex Willd.) Ehrend.

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, *OK* 3081. Ka. Ir.-Tur.

Rubia tinctorum

Muradiye, Muradiye waterfall surroundings, steppe/rocky places, 1900 m, 12 vii 2001, *OK* 2268. Hk. Ir.-Tur.

MONOCOTYLEDONES**ALISMACEAE****Alisma plantago-aquatica** L.

Muradiye, Babacan village, Derviş plateau, marshy places, 2400 m, 15 vii 2002, *OK* 3458. Hk. Euro-Sib.

A. lanceolatum With.

Muradiye, Şeytan bridge surroundings, marshy places, 1800 m, 27 vii 2001, *OK* 2525. Hk.

ARACEAE

Arum detrunctatum C.A.Mey. ex Schott
var. *virescens* (Stapf) Alpinar & R.R.Mill

Muradiye, Görecek village, Şevkii, rocky places, 2350 m, 24 vi 2002, *OK* 3384. Kr. Ir.-Tur.

A. conophalloides Kotschy ex Schoot
var. *conophalloides*

Muradiye, Alkasnak village, W of Ziyaret hill, rocky places, 2000 m, 12 vi 2001, *OK* 1726. Kr.

LEMNACEAE

Lemna minor L.

Muradiye, Alkasnak village, pools, 1900 m, 16 vii 2001, *OK* 2365. Kr.

LILIACEAE

Eremurus spectabilis M.Bieb.

Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2200 m, 28 v 2002, *OK* 3040. Kr. Ir.-Tur.

Allium rubellum M.Bieb.

Muradiye, Görecek village surroundings, rocky places, 1900 m, 15 vii 2002, *OK* 3415. Kr. VU. Det.: M. Koyuncu

A. stamineum Boiss.

Muradiye, Babacan village, Hacı cave, steppe, 2400-2500 m, 08 vii 2001, *OK* 2255. Kr. E. Medit.

A. atroviolaceum Boiss.

Muradiye, Babacan village, meadow, 1900 m, 27 vii 2001, *OK* 2559. Kr.

A. fuscoviolaceum Fomin

Muradiye, Görecek village surroundings, rocky places, 1900 m, 15 vii 2002, *OK* 3148. Kr. Ir.-Tur. Det.: M. Koyuncu

A. vineale L.

Muradiye, Saraç district surroundings, steppe, 1900 m, 16 vii 2001, *OK* 2384. Kr.

A. guttatum Steven subsp. *guttatum*

Muradiye, Görecek village, Şevkii, steppe, 2300 m, 24 iv 2002, *OK* 3411. Kr. Det.: M. Koyuncu

A. guttatum Steven subsp. *sardoum* (Moris) Stearn

Muradiye, Görecek village surroundings, rocky places, 1900 m, 15 vii 2002, *OK* 3417. Kr. Medit. Det.: M. Koyuncu

A. dictyoprasum C.A.Mey. ex Kunth

Erciş, Yukarı Göze district, Deliçay stream, steppe, 2100 m, 24 vii 2001, *OK* 2484. Kr. Ir.-Tur. Det.: M. Koyuncu

A. cardiostemon Fisch. & C.A.Mey.

Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3486. Kr. Ir.-Tur.

A. kharputense Freyn & Sint.

Muradiye, Babacan village, fields, 1900 m, 29 v 2002, *OK* 3116. Kr. Ir.-Tur.

Puschkinia scilloides Adams

Erciş, between Aşağı Kozluca and Yukarı Kozluca district, meadow, 2000 m, 14 iv 2002, *OK* 2838. Kr. Ir.-Tur.

Ornithogalum pyrenaicum L.

Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 24 vi 2002, *OK* 3249. Kr.

O. narbonense L.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 04 vi 2001, *OK* 1563. Kr. Medit.

O. oligophyllum E.D.Clarke

Muradiye, Akçadağ, E of Hachalit hill, steppe, 2000-2600 m, 26 iv 2001, *OK* 1178. Kr.

O. platyphyllum Boiss.

Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3471. Kr. Ir.-Tur.

Muscari comosum (L.) Mill.

Muradiye, Açıkyol village surroundings, steppe, 2000 m, 02 v 2001, *OK* 1235. Kr. Medit.

M. caucasicum (Griseb.) Baker

Muradiye, E of Babacan village, steppe, 1950 m, 29 v 2002, *OK* 3113. Kr. Ir.-Tur.

M. tenuiflorum Tausch

Muradiye, Ünseli village, S slopes of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1676. Kr.

M. armeniacum Leichtlin ex Baker

Muradiye, Alkasnak village, E of Ziyaret hill, steppe, 2500 m, 02 v 2001, *OK* 1196. Kr.

Bellevalia pycnantha (K.Koch) A.Los.-Los.

Muradiye, Görecek village surroundings, meadow, 1900, 05 v 2002, *OK* 2903. Kr. Ir.-Tur.

Fritillaria crassifolia Boiss. & É.Huet
subsp. *kurdica* (Boiss. & Noë) Rix

Muradiye, Görecek village surroundings, steppe, 2200, 05 v 2002, *OK* 2880. Kr. Ir.-Tur.

F. crassifolia Boiss. & Huet. subsp. *hakkarensis* Rix

Muradiye, Alkasnak village, E Ziyaret hill, steppe, 2500 m, 02 v 2001, *OK* 1194. Kr. VU. Ir.-Tur.

F. michailovskyi Fomin

Erciş, Tırmıklı district, rocky places, 2100 m, 19 v 2002, *OK* 2970. Kr. END.-EN. Ir.-Tur.

F. minuta Boiss. & Noë

Muradiye, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, *OK* 1495. Kr. Ir.-Tur.

F. caucasica Adams

Muradiye, Akçadağ, Sor plateau, meadow, 2750 m, 02 vi 2001, *OK* 1500. Kr. H. Eux.

F. uva-vulpis Rix

Muradiye, Ünseli village, S slope of Akçadağ, rocky places, 2300 m, 17 iv 2001, *OK* 1133. Kr. VU. Ir.-Tur. Det.: M. Koyuncu

Tulipa humulis Herb.

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2350 m, 24 vi 2002, *OK* 3318. Kr. Det.: M. Koyuncu

T. julia K.Koch

Muradiye, Ünseli village, S slope of Akçadağ, steppe/rocky places, 2300 m, 17 iv 2001, *OK* 1134. Kr. Ir.-Tur.

Gagea gageoides (Zucc.) Vved.

Erciş, Tırmıklı district, rocky places, 2100 m, 19 v 2002, *OK* 2968. Kr. Ir.-Tur.

G. taurica Steven

Muradiye, Alkasnak village, W of Ziyaret hill, meadow, 2400 m, 16 v 2001, *OK* 1304. Kr. Ir.-Tur.

G. bulbifera (Pall.) Schult. & Schult.f.

Muradiye, between Alkasnak and Dürükaş village, meadow, 1900 m, 23 iv 2002, *OK* 2852. Kr. Euro-Sib.

G. uliginosa Siehe & Pascher

Muradiye, Akçadağ, E of Hachalit, rocky places, 2100 m, 26 iv 2001, *OK* 1158. Kr. Ir.-Tur.

G. confusa Terracc.

Muradiye, Ünseli village, Arnis plateau, meadow, 2700 m, 02 vi 2001, OK 1494. Kr. Ir.-Tur.

G. luteoides Stapf

Muradiye, Alkasnak village, humid places, 1800 m, 24 iii 2001, OK 1052. Kr.

G. fistulosa Ker Gawl.

Muradiye, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, OK 1493. Kr.

G. villosa (M.Bieb.) Duby var. *villosa*

Muradiye, Alkasnak village, meadow, 1900 m, 23 iv 2002, OK 2851. Kr. Medit.? Det.: M. Koyuncu

Colchicum szovitsii Fisch. & C.A.Mey.

Muradiye, Alkasnak village, meadow, 1900 m, 31 iii 2001, OK 1071. Kr. Ir.-Tur.

C. kotschyi Boiss.

Muradiye, Alkasnak village, humid rocky places, 1850 m, 24 iii 2001, OK 1050. Kr. Ir.-Tur.

Merendera sobolifera C.A.Mey.

Erciş, between Aşağı Kozluca and Yukarı Kozluca district, meadow, 2100 m, 14 iv 2002, OK 2840. Kr. Ir.-Tur.

M. trigyna (Steven ex Adam) Stapf

Muradiye, Alkasnak village, meadow, 1850 m, 24 iii 2001, OK 1048. Kr. Ir.-Tur.

AMARYLLIDACEAE

Ixiolirion tataricum (Pall.) Herb. subsp. *montanum* (Labill.) Takht.

Muradiye, Muradiye waterfall surroundings, steppe, 1800 m, 13 vi 2002, OK 3133. Kr. Ir.-Tur.

IRIDACEAE

Iris iberica Hoffm. subsp. *elegantissima* (Sosn.) Takht. & Fedorov

Muradiye, Görecek village surroundings, meadow, 1800, 13 vi 2002, OK 3125. Kr. Ir.-Tur.

I. caucasica Hoffm. subsp. *caucasica*

Muradiye, Akçadağ, E of Hachalit hill, steppe, 2000-2600 m, 26 iv 2001, OK 1182. Kr. VU. Euro-Sib.

I. caucasica Hoffm. subsp. *turcica* B.Mathew

Muradiye, W of Babacan village, steppe, 2200 m, 28 v 2002, OK 3087. Kr. Ir.-Tur.

I. pseudocaucaucasica Grossh.

Muradiye, Ünseli village to Arnis plateau, rocky slopes, 2200-2750 m, 02 vi 2001, OK 1473. Kr. VU. Ir.-Tur.

I. persica L.

Erciş, Yukarı Göze district, steppe, 2000-2200 m, 19 v 2002, OK 2952. Kr. Ir.-Tur.

Gladiolus kotschyanus Boiss.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, OK 3381. Kr. Ir.-Tur. Det.: M. Koyuncu

G. atroviolaceus Boiss.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 11 vi 2001, OK 1592. Kr. Ir.-Tur.

ORCHIDACEAE**Orchis tridentata** Scop.

Muradiye, Görecek village, Şevkii, meadow, 2350 m, 24 vi 2002, OK 3375. Kr. Med.

▲O. anatolica Boiss.

Muradiye, Akçadağ, E of Hachalit hill, humid places, 2000-2600 m, 26 iv 2001, OK 1183. Kr. E. Medit.

O. mascula (L.) L. subsp. *pinetorum* (Boiss. & Kotschy) E.G.Camus

Muradiye, Alkasnak village, E of Ziyaret hill, wet meadow places, 2500 m, 02 v 2001, OK 1187. Kr. E. Medit.

Dactylorhiza osmanica (Kl.) Soó var. *osmanica*

Muradiye, E of Babacan village, meadow, 2100 m, 29 v 2002, OK 3111. Kr. END.-LC. Ir.-Tur.?

TYPHACEAE**Typha latifolia** L.

Muradiye, Şeytan bridge surroundings, streamside, 1900 m, 27 vii 2001, OK 2535. Kr.

T. angustifolia L.

Muradiye, side of Lake Van, wet places, 1700 m, 30 vii 2001, OK 2641. Kr.

JUNCACEAE**Juncus inflexus** L.

Muradiye, Görecek village, Şevkii, humid places, 2350 m, 15 vii 2002, OK 3562. Hk.

▲J. filiformis L.

Muradiye, Babacan village, Hacı cave, humid slopes, 2300 m, 11 ix 2001, OK 2222. Hk.

J. gerardi Loisel subsp. *gerardi*

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 11 vi 2001, OK 1590. Kr.

J. bufonius L.

Muradiye, Babacan village, Derviş plateau, marshy places, 2400 m, 15 vii 2002, *Behçet* 6702. T.

J. articulatus L.

Muradiye, Görecek village, Şevkii, meadow, 2300 m, 30 ix 2001, OK 2754. Hk. Euro-Sib.

J. alpigenus K.Koch

Erciş, Lake Çiriş surroundings, meadow, 2300 m, 15 vii 2002, OK 3467. Kr. Eux.?

CYPERACEAE**Cyperus longus** L.

Muradiye, Muradiye waterfall surroundings, streamside, 1800 m, 12 vii 2001, OK 2281. Kr.

C. difformis L.

Muradiye, Alkasnak village, Ziyaret hill, open places, 2300 m, 02 ix 2001, OK 2684. T.

Eleocharis palustris (L.) Roem. & Schult.

Erciş, Lake Çiriş surroundings, streamside, 2400 m, 15 vii 2002, OK 3468. Hk.

Schoenoplectus lacustris (L.) Palla subsp. *tabernaemontani* (C.C.Gmel.) Á.Löve & D.Löve

Muradiye, side of Lake Van, humid places, 1700 m, 30 vii 2001, OK 2644. Kr.

Bolboschoenus maritimus (L.) Palla var. *maritimus*

Muradiye, side of Lake Van, humid places, 1700 m, 30 vii 2001, OK 2643. Kr.

Scirpoides holoschoenus (L.) Soják

Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, OK 1948. Kr.

Carex stenophylla Wahlenb subsp. *stenophylloides* (V.Krecz.) T.V.Egorova

Muradiye, Alkasnak village, meadow, 1800 m, 23 iv 2002, OK 2848. Hk. Ir.-Tur.

- C. ovalis** Good
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1911. Hk. Euro-Sib.
- C. melanostachya** M.Bieb.
Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3466. Hk.
- C. riparia** Curtis
Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2300 m, 28 v 2002, *OK* 3043. Hk. Euro-Sib.
- C. flacca** Schreber subsp. *serrulata* (Biv.) Greuter
Muradiye, Babacan village, Hacı cave, humid slopes, 2300 m, 08 vii 2001, *OK* 2243. Hk. Medit.
- ▲**C. magellanica** Lam. subsp. *irrigua* (Wahlenb.) Hiitonen
Muradiye, Babacan village, roadside, 1900 m, 28 v 2002, *OK* 3021. Hk. Euro-Sib.
- ▲**C. nigra** (L.) Reichard subsp. *dacica* (Heuff.) Soó
Muradiye, Babacan village, Emirgezer stream, streamside, 2200 m, 24 vi 2002, *OK* 3190. Hk. Eux.?
- C. orbicularis** Boott subsp. *kotschyana* (Boiss. & Hohen.) Kukkonen var. *kotschyana*
Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3485. Hk. Ir.-Tur.
- POACEAE (GRAMINEAE)**
- Elymus repens** (L.) Gould subsp. *repens*
Muradiye, Babacan village, Hacı cave, humid slopes, 2250 m, 08 vii 2001, *OK* 2207. Kr.
- E. hispidus** (Opiz) Melderis subsp. *hispidus*
Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2014. Kr.
- E. hispidus** (Opiz) Melderis subsp. *podpyrae* (Nábelek) Melderis
Muradiye, Şeytan bridge surroundings, steppe, 1900-2400 m, 30 vi 2001, *OK* 1986. Kr. Ir.-Tur.
- Aegilops triuncialis** L. subsp. *triuncialis*
Erciş, Aşağı Kozluca district, field edges, 1900 m, 24 vi 2001, *OK* 1898. T.
- ***Triticum aestivum** L.
Erciş, Aşağı Kozluca district, fields, 1900 m, 24 vi 2001, *OK* 1896. T.
- Secale montanum** Guss.
Erciş, Deredam district, fields, 2000 m, 30 vii 2001, *OK* 2623. Hk.
- Psathyrostachys fragilis** (Boiss.) Nevski subsp. *secaliniformis* Tzvelev
Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3303. Kr. Ir.-Tur.
- Hordeum violaceum** Boiss. & É.Huet
Muradiye, Babacan village, Hacı cave, steppe, 2400 m, 08 vii 2001, *OK* 2242. Ka. Ir.-Tur.
- H. geniculatum** All.
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1939. T. Euro-Sib.
- H. bulbosum** L.
Muradiye, Saraç district surroundings, meadow, 2000 m, 16 vii 2001, *OK* 2373. Hk.
- Taeniatherum caput-medusae** (L.) Nevski subsp. *cirinitum* (Schreb.) Melderis
Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2400 m, 04 vi 2001, *OK* 1574. T. Ir.-Tur.?
- Bromus arvensis** L.
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1936. T.
- B. japonicus** Thunb. subsp. *japonicus*
Erciş, Yukarı Kozluca district, steppe, 2250 m, 24 vi 2001, *OK* 1958. T.
- B. japonicus** Thunb. subsp. *anatolicus* (Boiss. & Heldr.) Pénzes
Muradiye, Görecek village, Şevkii, steppe, 2350 m, 24 vi 2002, *OK* 3304. T.
- B. scoparius** L.
Muradiye, Kemerköprü village, Neri hill, steppe, 2000 m, 21 vi 2001, *OK* 1832. T.
- B. danthoniae** Trin.
Muradiye, Görecek village surroundings, meadow, 1950 m, 24 vi 2002, *OK* 3194. T.
- B. tectorum** L. subsp. *tectorum*
Muradiye, Babacan village, Hüseyin Kom stream, steppe, 2000 m, 28 v 2002, *OK* 3057. T.
- B. tomentellus** Boiss.
Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1616. Hk. Ir.-Tur.
- B. variegatus** M.Bieb. subsp. *variegatus*
Muradiye, Babacan village, W of Derviş plateau, steppe, 2500 m, 15 vii 2002, *OK* 3441. Hk. Ir.-Tur.
- Helictotrichon pratense** (L.) Besser ex Schult. & Schult.f.
Muradiye, Görecek village, Şevkii, steppe, 2200-2500 m, 08 vii 2001, *OK* 2082. Hk. Euro-Sib.
- Trisetum flavescens** (L.) P.Beauv.
Muradiye, Akçadağ, N of Ziyaret hill, meadow, 2700 m, 21 vi 2001, *OK* 1747. Hk. Euro-Sib.
- T. thospiticum** Chrték
Muradiye, Görecek village, Şevkii, humid slopes, 2300 m, 30 ix 2001, *OK* 2756. Hk. END.-VU. Ir.-Tur.
- Koeleria eriostachya** Pancic
Erciş, Lake Çiriş surroundings, steppe, 2400 m, 15 vii 2002, *OK* 3484. Hk.
- K. cristata** (L.) Pers.
Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2013. Hk.
- Deschampsia caespitosa** (L.) P.Beauv.
Muradiye, Babacan village, Hacı cave, wet/humid slopes, 2400 m, 08 vii 2001, *OK* 2216. Ka.
- Calamagrostis pseudophragmites** (Haller f.) Koeler
Muradiye, Babacan village, Hacı cave, wet/humid slopes, 2400 m, 08 vii 2001, *OK* 2208. Kr. Euro-Sib.
- Agrostis olympica** (Boiss.) Bor
Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, *OK* 2053. Hk. Euro-Sib.(mt.).
- A. planifolia** K.Koch
Muradiye, Babacan village, Emirgezer stream, humid slopes, 2400 m, 15 vii 2002, *Behçet* 6728. Hk. Ir.-Tur.
- A. gigantea** Roth
Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2376. Hk. Euro-Sib.

A. stolonifera L.

Muradiye, Muradiye waterfall surroundings, humid places, 1900 m, 12 vii 2001, *OK* 2317. Ka. Euro-Sib.

Zingeria pisdica (Boiss.) Tutin

Erciş, Lake Çiriş surroundings, meadow, 2400 m, 15 vii 2002, *OK* 3470. T. Ir.-Tur.

Phalaris arundinacea L.

Muradiye, Görecek village, Şevkii, wet places, 2200-2500 m, 08 vii 2001, *OK* 2157. Hk.

Alopecurus arundinaceus Poir.

Muradiye, Ünseli village, meadow, 1700 m, 19 v 2002, *OK* 2963. Hk. Euro-Sib.

A. textilis Boiss. subsp. **textilis**

Muradiye, Kemerköprü village, Neri hill, steppe, 2500 m, 21 vi 2001, *OK* 1828. Kr. Ir-Tur.

A. aucheri Boiss.

Muradiye, Akçadağ, Arnis plateau, meadow, 2700 m, 02 vi 2001, *OK* 1490. Hk. Ir.-Tur.

Phleum alpinum L.

Muradiye, Babacan village, Emirgezer stream, streamside, 2100 m, 24 vi 2002, *OK* 3191. Kr. Euro-Sib.

P. pratense L.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2445. Hk. Euro-Sib.

▲P. bertolonii DC.

Muradiye, Saraç district surroundings, meadow, 1900 m, 16 vii 2001, *OK* 2375. Ka.

P. montanum K.Koch subsp. **montanum**

Muradiye, Babacan village surroundings, humid places, 1850 m, 11 ix 2001, *OK* 2691. Ka.

Festuca gigantea (L.) Vill.

Muradiye, Babacan village, Kom stream, wet/humid slopes, 2400 m, 08 vii 2001, *OK* 2183. Ka. Euro-Sib.

F. pratensis Hudson

Muradiye, Babacan village, Kom stream, wet/humid slopes, 2400 m, 08 vii 2001, *OK* 2199. Ka.

Poa trivialis L.

Muradiye, Görecek village, Şevkii, humid places, 2350 m, 24 vi 2002, *OK* 3301. Ka.

P. angustifolia L.

Muradiye, Babacan village, Emirgezer stream, steppe, 2200 m, 24 vi 2002, *OK* 3275. Hk.

P. longifolia Trin.

Muradiye, Babacan village, Hacı cave surroundings, streamside, 2200 m, 08 vii 2001, *OK* 2220. Hk. Eux.

P. masenderana Freyn & Sint.

Muradiye, Babacan village, roadside, 1900 m, 28 v 2002, *OK* 3020. Hk. H. Eux.-DD.

P. compressa L.

Muradiye, Babacan village, Emirgezer stream, steppe, 2200 m, 24 vi 2002, *OK* 3274. Hk.

P. araratica Trautv.

Muradiye, Saraç village surroundings, meadow, 1950 m, 16 vii 2001, *OK* 2369. Hk. Ir.-Tur.

P. timeolontis Heldr. ex Boiss.

Muradiye, Ünseli village, Bey district, meadow, 1750 m, 11 vi 2001, *OK* 1588. Hk. E. Medit.

P. bulbosa L.

Muradiye, Akçadağ, E of Hachalit hill, steppe, 2000 m, 26 iv 2001, *OK* 1163. Hk.

Eremopoa persica (Trin.) Roshev.

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2300 m, 04 vi 2001, *OK* 1571. T. Ir.-Tur.

E. songarica (Schrenk) Roshev.

Muradiye, Babacan village, Derviş plateau, steppe, 2400 m, 15 vii 2002, *OK* 3462. T. Ir.-Tur.

Catabrosella parviflora (Boiss. & Buhse) Alexeev ex R.Mill. subsp. **parviflora**

Muradiye, Alkasnak village, W of Ziyaret hill, meadow, 2400 m, 29 v 2001, *OK* 1363. Hk. Ir.-Tur.

Catabrosa aquatica (L.) P.Beauv.

Erciş, Yukarı Göze district, Deliçay stream, humid forest places, 2000 m, 24 vii 2001, *OK* 2448. Hk.

Dactylis glomerata L. subsp. **glomerata**

Muradiye, Alkasnak village, W of Ziyaret hill, steppe, 2200 m, 12 vi 2001, *OK* 1717. Hk. Euro-Sib.

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

Muradiye, Kemerköprü village, Neri hill, steppe, 2846 m, 21 vi 2001, *OK* 1824. Hk.

Sesleria phleoides Steven ex Roem. & Schult.

Muradiye, Ünseli village, W slope of Akçadağ, high mountain steppe, 2700 m, 11 vi 2001, *OK* 1664. Hk.

Melica persica Kunth subsp. **jacquemontii** (Decne. ex Jacquem.) P.H.Davis

Muradiye, Alkasnak village, Gazi Mehmet hill, steppe, 2200 m, 16 vii 2001, *OK* 2362. Hk. Ir.-Tur.

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

Muradiye, Ünseli village, S slope of Akçadağ, steppe, 1750-2700 m, 11 vi 2001, *OK* 1609. Kr.

Glyceria plicata (Fr.) Fr.

Muradiye, Babacan village, Hacı cave, humid slopes, 2300 m, 08 vii 2001, *OK* 2178. Hk.

Nardus stricta L.

Muradiye, Görecek village, Şevkii, wet places, 2350 m, 24 vi 2002, *OK* 3315. Hk. Euro-Sib.

Stipa holosericea Trin.

Erciş, Yukarı Kozluca district, steppe, 2050 m, 30 vi 2001, *OK* 2012. Hk. Ir.-Tur.?

S. arabica Trin. & Rupr.

Muradiye, Ünseli village, S slope of Akçadağ, steppe/rocky slopes, 2500 m, 11 vi 2001, *OK* 1613. Hk. Ir.-Tur.

S. tirsia Stev.

Muradiye, Babacan village, W of Derviş plateau, steppe, 2500 m, 15 vii 2002, *OK* 3442. Hk. Euro-Sib.

S. pontica P.A.Smirm.

Muradiye, Kemerköprü village, Neri hill, steppe, 2600 m, 21 vi 2001, *OK* 1834. Hk.

Piptatherum holciforme (M.Bieb.) Roem. & Schult. subsp. **holciforme** var. **holciforme**

Muradiye, Görecek village, Şevkii, steppe/rocky places, 2200-2500 m, 08 vii 2001, *OK 2122*. Hk.

Phragmites australis (Cav.) Trin. ex Steud.

Muradiye, Babacan village, Hüseyin Kom stream, meadow, 2200 m, 27 vii 2001, *OK 2563*. Kr. Euro-Sib.

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

Muradiye, Muradiye waterfall surroundings, steppe, 1900 m, 12 vii 2001, *OK 2316*. Hk.

Setaria viridis (L.) P.Beauv.

Muradiye, Ünseli village, Bey district, meadow, 1800 m, 21 x 2001, *OK 2777*. T.