

# The Flora of Üzümlü-Sakaltutan (Erzincan-Gümüşhane)

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**Abstract:** This study was carried out to determine the flora of the area between Üzümlü and Sakaltutan (Erzincan-Gümüşhane). In this research, conducted between 2001 and 2006, 5210 plant specimens were collected from the research area, and 960 taxa (at specific and intraspecific ranks) belonging to 344 genera and 73 families were reported. The large families are Asteraceae (152 taxa), Brassicaceae (78 taxa), Fabaceae (73 taxa), Caryophyllaceae (64 taxa), and Lamiaceae (62 taxa). The large genera are *Astragalus* L. (30), *Silene* L. (27), *Allium* L. (18), *Tanacetum* L. (14), *Centaurea* L. (13), and *Alchemilla* L. (13). The number of endemic taxa is 211 and the endemism rate is 21.95%. The distribution of phytogeographical elements is Irano-Turanian 327 (34.02%), Euro-Siberian 65 (6.76%), and Mediterranean 22 (2.28%) taxa, while 569 (59.2%) are multiregional or unknown. In addition, 151 taxa were defined as new records for the B7 square.

**Key Words:** Flora, Erzincan, Gümüşhane, Sakaltutan, Üzümlü

## Üzümlü ve Sakaltutan (Erzincan-Gümüşhane) Arasında Kalan Bölgenin Florası

**Özet:** Bu çalışmada Üzümlü ile Sakaltutan (Erzincan-Gümüşhane) arasında kalan bölgenin florası tespit edilmiştir. Araştırma 2001 ve 2006 yılları arasında gerçekleştirilmiştir. Çalışma sırasında 5210 bitki örneği toplanmıştır. Araştırma alanından, 73 Familya ve 344 cins'e ait 960 takson (tür ve tür altı kategoriler) belirlenmiştir. En çok tür içeren familyalar sırasıyla, Asteraceae (152 takson), Brassicaceae (78 takson), Fabaceae (73 takson), Caryophyllaceae (64 takson) ve Lamiaceae (62 takson)'dir. En fazla takson içeren cinsler sırasıyla, *Astragalus* L. (30), *Silene* L. (27), *Allium* L. (18), *Tanacetum* L. (14), *Centaurea* L. (13) ve *Alchemilla* L. (13)'dir. Endemik taksonların sayısı 211 ve endemizm oranı % 21,95'dir. Bitki coğrafyası elementlerinin dağılımı, İran-Turan 327 (% 34,02), Avrupa-Sibirya 65 (% 6,76), Akdeniz 22 (2,28) ve floristik bölgesi bilinmeyen 569 (% 59,2) şeklindedir. 151 takson B7 karesi için yeni kayıttır.

**Anahtar Sözcükler:** Erzincan, Flora, Gümüşhane, Sakaltutan, Üzümlü

## Introduction

The floristic features of the area between Üzümlü and Sakaltutan were investigated in this study. The area extends along the provincial border between Erzincan and Gümüşhane. A part of the area is considered to be in the Esence Mountains while the other part is in the Otlukbeli Mountains.

The Esence mountain range is in the northern part of Erzincan Plain. It begins at Tercan in the east and stretches all the way to Işıkpınar Creek in the west (Akkan, 1964). Another part of the area included in this

study is the Otlukbeli Mountains, extending from the town of Otlukbeli in the east to the town of Refahiye in the west.

The region selected for this study runs east-west, starting at the town of Üzümlü and ending around Sakaltutan pass (Figure 1). The eastern part is in the Esence mountain range while its western side is considered part of the Otlukbeli Mountains. The altitude varies between 1180 and 3549 m. The highest elevations in the area are Keşiş Hill (3549 m), Cimin Mountain (3350 m), Karadağ (2760 m), Akdağ (2710 m), Sipikör

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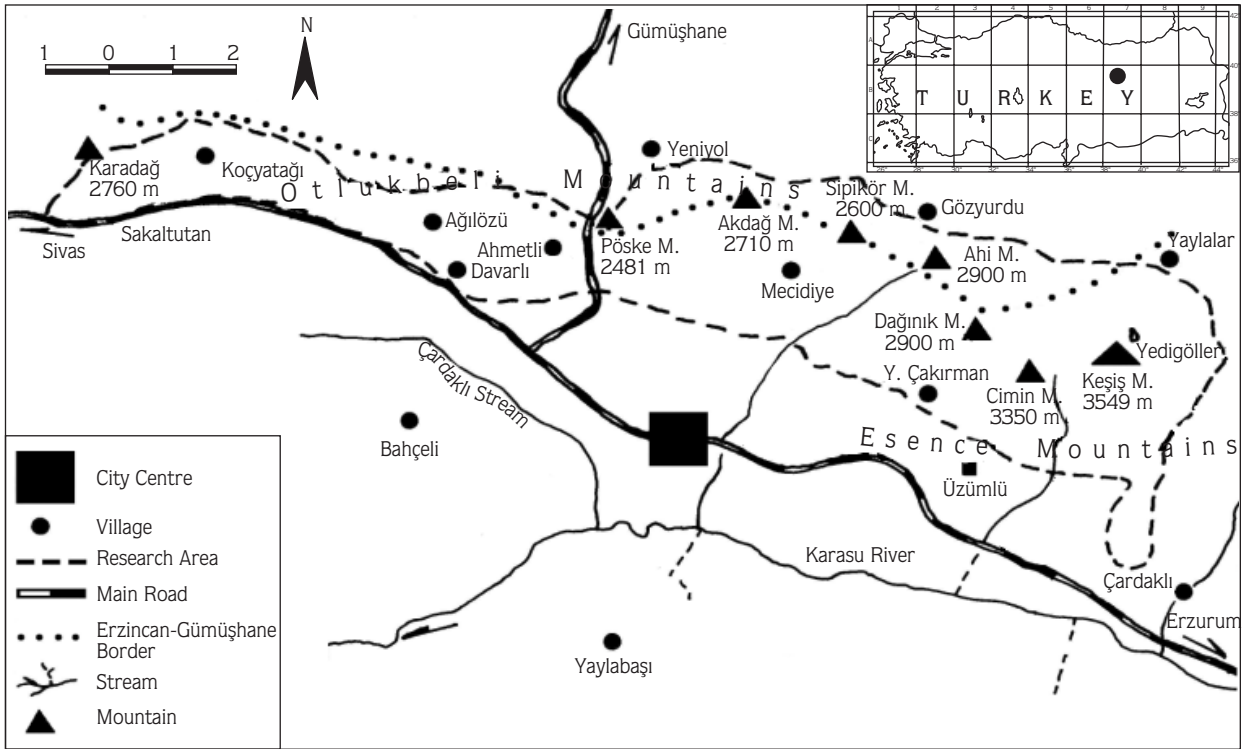


Figure. The location of the research area.

Mountain (2600 m), and Poske Mountain (2481 m). Northern parts of Poske Mountain, Sipikör Mountain, and Akdağ are located in the Otlukbeli Mountains in Gümüşhane province, while Keşiş and Cimin Mountain are located in the Esence mountain range and are in Erzincan province. This area, one of the endemic regions in Turkey, is in square B7 and is the Irano-Turanian floristic region (Ekim et al., 2000).

Geologically, the area consists of serpentine from the upper Cretaceous. Nevertheless, limestone from the Cretaceous can be found in some places such as higher parts of Üzümlü Sipikör Mountain and Poske Mountain (Akkan, 1964). Continental climate is prevalent throughout the area. Annual average temperature is 6.8 °C and Summer average is 23.9 °C and winter average is -3.7 °C. The coldest month is January and the warmest is August. Average precipitation is 535 mm. (Mortan, 1991).

The purpose of this study was to determine the floristic features of the area, which is floristically noteworthy. This is thought to be a valuable contribution for understanding Turkey's flora.

## Materials and Methods

The research materials were obtained during the vegetation seasons from 2001 to 2006. The plant samples were prepared according to the established herbarium techniques. The *Flora of Turkey* was used in the identification of the plant samples (Davis, 1965-1985; Güner et al., 2000). The identification was also checked in herbaria of Gazi University (GAZI), Ankara University (ANK), İstanbul University (ISTE), Edinburgh (E), and Kew (K). Some doubtful identifications were checked by experts. Taxonomic data are presented alphabetical order. In the appendix, every species is represented with the following details: the legitimate name and the authors of the species, the geographical location, habitats, altitudes, GPS coordinates (if present), collection dates, collector's name, collector numbers, endemism, and phytogeographical regions. Donner's distribution maps (Donner, 1990) and the records of the herbaria of Gazi University were checked for the records new to the B7 square. The new records are indicated by an asterisk (\*) in front of the plant name. The specimens were deposited in Erzincan University, Education Faculty Herbarium.

Abbreviations used in the appendix are as follows:

El.: Elements

End.: Endemic

Euro-Sib.: Euro-Siberian

Eux.: Euxine

Ir.-Tur.: Irano-Turanian

M.: Mountain

Medit.: Mediterranean

D.: Dağ

## Discussion and Conclusion

This study was carried out with 5210 plant specimens collected during the 6 years. As a result of the identification of the plant specimens, 73 families, 344 genera, and 960 taxa belonging to species, subspecies, and varieties were determined. Gymnospermae have 4 taxa and Angiospermae 956 taxa. Moreover, 835 taxa belong to the Dicotyledones while the others (121) belong to the Monocotyledones (Table 1). The number of endemic taxa is 221 and this number constitutes 21.95% of the total flora. Furthermore, 151 taxa were defined as new records for the B7 square.

Phytogeographical analyses of the 960 taxa are listed as follows: Irano-Turanian elements 327 (34.02%), Euro-Siberian 65 (6.76%), Mediterranean 22 (2.28%), and multiregional or unknown 569 (59.2%).

Asteraceae, with 152 taxa; Brassicaceae, with 78 taxa; Fabaceae, with 73 taxa; Caryophyllaceae, with 64 taxa; Lamiaceae, with 62 taxa; Liliaceae, with 51 taxa; Rosaceae, with 50 taxa; Scrophulariaceae, with 47 taxa; Apiaceae, with 43 taxa; and Poaceae, with 55 taxa, are the largest families (Table 2).

Table 1. The dispersion of taxa into large taxonomic groups.

Taxonomic Groups	Number of Families	Number of Taxa
Gymnospermae	3	4
Angiospermae	70	957
Dicotyledones	61	836
Monocotyledones	9	121
Total	73	960

The largest genera are *Astragalus* L. (30), *Silene* L. (27), *Allium* L. (18), *Tanacetum* L. (14), *Centaurea* L. (13), and *Alchemilla* L. (13).

The results of this study were compared with those of other floristic studies (Yıldırım, 1995; Kaya, 1996). Yıldırım reported the flora of the Munzur Mountains, located between Tunceli and Erzincan provinces, and Kaya investigated the flora of the eastern cross-section of the Munzur and Esence Mountains.

According to Yıldırım's research, 1407 vascular plant species, 75 subspecies, and 36 varieties belonging to 479 genera and 98 families were reported. Among these species there are 8 Pteridophytes, 4 Gymnosperms, and 1395 Angiosperms (1222 Dicotyledones and 173 Monocotyledones). The largest families are Asteraceae (171 species), Brassicaceae (129 species), and Fabaceae (121 species). The largest genera are *Astragalus* L. (39 species), *Alyssum* L. (29 species), and *Silene* L. (27 species). The distribution of phytogeographical elements is Irano-Turanian 643 (45.7%), Euro-Siberian 112 (8%), Mediterranean 62 (4.4%), and multiregional or unknown 590 species (41.9%). The endemic taxa number 275, constituting 19.9% of the total flora (Yıldırım, 1995).

In Kaya's research, the largest families are Asteraceae 71 (11%), Fabaceae 63 (9.5%), and Lamiaceae 55 (8.3%). The genera with the highest number of species are *Astragalus* 18 (6%), *Silene* L. 14 (4.6%), and *Salvia* L. 13 (4.3%). The distribution of phytogeographical elements is Irano-Turanian 165 (25%), Euro-Siberian 63 (9.5%), Mediterranean 29 (4.4%), widespread 124

Table 2. The richest families within the areas.

Families	Number of Taxa
Asteraceae	152
Brassicaceae	78
Fabaceae	73
Caryophyllaceae	64
Lamiaceae	62
Liliaceae	51
Rosaceae	47
Apiaceae	43
Poaceae	43

(18.8%), and multiregional or unknown 272 (41.9%). The endemic taxa number 43, and the endemism rate is 6.5% (Kaya, 1996).

The number of taxa is greater in the Munzur Mountains than in our study. This is not surprising because the Munzur Mountains have a larger surface and more varied ecological areas than ours.

Asteraceae is the largest family, *Astragalus* is the largest genus, and Irano-Turanian elements are the largest group in the Munzur Mountains, as in our research. This can be explained by the fact that both of these areas lie within the Irano-Turanian phytogeographical region and steppe vegetation is dominant in both research areas. The endemism rate in our study (21.95%) is higher than that in the Munzur Mountains (19%). The Munzur Mountains are made from limestone while the Esence Mountains are mainly made from serpentine (Akkan, 1964). This may be the reason for the difference in the endemism rate. The genus *Alchemilla* L. is represented by 13 species in our research area and by 4 species in the Munzur Mountains. This may be explained by the fact that our research area is closer to the Euro-Siberian region.

Although some parts of the research area in Kaya's study are included in the Esence Mountains in the east, the floristic results are quite different from ours. These differences may have occurred due to forest vegetation in his study area.

This investigation reveals interesting results as well as general floristic features of the area. These results and discussion are found below.

According to the records of Turkish Flora, the localities where the specimens were collected from Cimin Mountain at the top of Üzümlü district had already been recorded as Keşiş Mountain (Davis, 1965). In fact, Keşiş Mountain is located to the north of Cimin (Figure 1). Both Keşiş and Cimin are known as Keşiş Mountain by botanists. Therefore, we used the names of localities as Keşiş Mountain for specimens collected on Cimin and Keşiş Mountains.

*Viola odontocalycina* Boiss., *Alchemilla orthotricha* Rothm., and *Hieracium asterodermum* (Woronow & Zahn) Juxip are known from type localities. In this study, these species have been collected again from their localities.

*Barbarea platycarpa* Hausskn. ex Bornm. was first collected from Ertabil in Gümüşhane by Sintenis and then recorded from Sipikör in Erzincan by Leyd. No fruit was found on the specimens from Sipikör, and the author was not completely sure about identify of the Sipikör specimens (Davis, 1965). We tried to find the species for 3 years, but we were unable to collect it in Sipikör. *B. auriculata* Hausskn. ex Bornm var. *paludosa* Coode & Cullen, *B. minor* Koch subsp. *robusta* Coode & Cullen, and *B. plantaginea* DC. are common in the region. We thought that the specimen collected from Sipikör by Leyd. mentioned as *B. platycarpa* may be one of these species.

*Barbarea integrifolia* DC. was collected from Cappadocia by Tournefort and from Gümüşhane by Sintenis. It is known from these localities. The species was collected from a small lake above Koçyatağı village near Sakaltutan Pass in this study.

*Barbarea auriculata* var. *paludosa* is Critically Endangered (Ekim et al., 2000) and is known from Erzincan, Tercan to Aşkale (Davis, 1965). It is common in the research area.

*Uechtrizia armena* Freyn & Sint. is regarded as Endangered (Ekim et al., 2000). The fruits of the species cannot became mature and the species reproduces only by its rhizomes. It is limited to the edge of the road in Sipikör. We estimate that the species may disappear from this locality in the near future.

According to the records of Flora (Davis, 1975), *Centaurea huber-morathi* Wagenitz is known only from near Ahmediye Bakımevi in Pöske Mountain. We determined that the species is common around Koçyatağı village near Sakaltutan Pass.

*Gypsophila adenophylla* Bark. (*Caryophyllaceae*) has pink petals (Davis, 1966). The specimens in some populations at the top of Üzümlü district have white petals.

*Cerasitum cerastioides* (L.) Britt. is diffuse perennial with glabrous stems and leaves (Davis, 1966). The specimens collected from Keşiş Mountain belonging to *C. cerastioides* are different, with glandular hairy stems and leaves. The specimen collected from Gümüşhane Karagöl Da. by Sintenis and cited in the Flora (Sint. 7294) was checked in E. It has also glandular hairy stems and leaves. The other characteristics of Keşiş and Karagöl specimens are the same as other glabrous specimens belonging to *C. cerastioides*. We think that having glandular stems and leaves is a variation in *C. cerastioides*.

According to the definitions of IUCN categories, a taxon is Data Deficient (DD) when there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution. A taxon in this category may be well studied, and its biology may be well known, but appropriate data on abundance and distribution are lacking. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that a threatened classification is appropriate (Pullin, 2004). *Viola odontocalycina* Boiss., *Alchemilla orthotricha* Rothm., and *Hieracium asterodermum* (Woronow & Zahn) Juxip, whose IUCN categories are indicated as DD, were collected from their original localities in this study. According to our field observations, the estimated area of occupancy is less than 10 km<sup>2</sup> and the number of individuals is under 100. Moreover, the population seemed under continuous threat of excessive grazing. Therefore, it should be graded as Critically Endangered (CR), because of its local existence and small population size (IUCN, 2001).

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Many specimens were collected from Sipikör by Sintenis in 1889 and 1890 (Cullen, 1963). The plants localities in Sintenis were recorded as "B7 Erzincan" in the *Flora of Turkey*. Sipikör and its environs are close to Erzincan, but the area is under the jurisdiction of Gümüşhane province. Sipikör has not been related to Erzincan since Sintenis' time. Therefore, his records from B7 Erzincan Sipikör should be evaluated as B7 Gümüşhane.

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## APPENDIX: THE FLORISTIC LIST

### SPERMATOPHYTA

#### GYMNOSPERMAE

##### CUPRESSACEAE

*Juniperus communis* L., subsp. *hemisphaerica* (Presl) Nyman

Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, slopes, *Kandemir* 6414.

##### EPHEDRACEAE

\**Ephedra distachya* L.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 39°46'12" N, 39°34'69" E, 26 vi 2003, slopes, *Kandemir* 5291.

*Ephedra major* Host

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing gravelly slopes, *Kandemir* 3773.

##### PINACEAE

*Pinus sylvestris* L.

Erzincan: Keşiş D., above Üzümlü, Çamlık, 2440 m, 39°45'54" N, 39°44'38" E, 15 vii 2004, *Kandemir* 6454, Gümüşhane: Sipikör D., 2390 m, 39°53'48" N, 39°32'85" E, 08 vii 2004, in valley, *Kandemir* 6358.

##### ANGIOSPERMAE

#### DICOTYLEDONAE

##### ACANTHACEAE

*Acanthus dioscoridis* L. var. *dioscoridis*

Erzincan: Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, sloping side, pasture-land, *Kandemir* 5456.

##### ACERACEAE

*Acer hyrcanum* Fisch. & Mey. subsp. *hyrcanum*

Erzincan: Pöske D., 2233 m, 26 vii 2003, under forest, *Kandemir* 5687, Gümüşhane: Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, 01 viii 2004, under forest, *Kandemir* 6631; Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, under forest, *Kandemir* 6581.

##### APIACEAE

*Anthriscus nemorosa* (Bieb.) Sprengel

Erzincan: Dağınık D., above Kızlar Castle, 2300 m, 22 vi 2003, rocky, *Kandemir* 5336.

*Astrantia maxima* Pallas subsp. *haradjianii* (Grintz.) Rech.

Gümüşhane: Pöske D., 1950 m, 10 vii 2003, in forest, *Kandemir* 5504.

*Astrodaucus orientalis* (L.) Drude

Erzincan: Keşiş D., above Üzümlü, 1800 m, 20 vii 2002, slopes, *Kandemir* 4862, Ir.-Tur.

\**Bunium microcarpum* (Boiss.) Freyn subsp. *microcarpum*

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, roadside, *Kandemir* 4209, Medit.

*Bunium microcarpum* (Boiss.) Freyn subsp. *bourgaei* (Boiss.) Hedge & Lamond

Erzincan: Keşiş D., around Yedigöller, 2600 m, 27 vii 2002, slopes, *Kandemir* 4938, Ir.-Tur.

*Bupleurum cappadocicum* Boiss.

Erzincan: Turna River barrage bed, 2143 m, 39°5'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6256; Keşiş D. Turna River, 39°55'65" N, 39°43'11" E, 2170 m, 21 vi 2004, slopes, *Kandemir* 6260, Ir.-Tur.

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

Erzincan: Keşiş D., Tekçam, 2200 m, 39°42'37" N, 39°46'26" E, 20 vii 2003 *Kandemir* 5655, Gümüşhane: Sipikör D., Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, limestone, *Kandemir* 6518.

*Bupleurum falcatum* L. subsp. *polyphyllum* (Ledeb) Wolff

Erzincan: Pöske D., 1950 m, 10 vii 2003, in forest, *Kandemir* 5505, Gümüşhane: Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, 01 viii 2004, in forest, *Kandemir* 6635. Eux.

*Bupleurum papillosum* DC.

Erzincan: Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6506, End., Ir.-Tur.

*Caucalis platycarpus* L.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky, *Kandemir* 3733.

*Chaerophyllum aureum* L.

Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6577.

*Chaerophyllum crinitum* Boiss.

Gümüşhane: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, forest side, *Kandemir* 5242, Ir.-Tur.

*Cymbocarpum erythraeum* (DC.) Boiss.

Erzincan: Dağınık D., 3000 m, 39°47'92" N, 39°28'19" E, 27 viii 2003, flowing slopes, *Kandemir* 5838.

*Echinophora crisantha* Freyn & Sint.

Erzincan: Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside, *Kandemir* 664, End., Ir.-Tur.

*Echinophora tenuifolia* L. subsp. *sibthorpii* (Guss.) Tutin

Erzincan: Keşiş D., above Üzümlü, 1450 m, 23 viii 2002, *Kandemir* 5048, Ir.-Tur.

*Eryngium billardieri* Delar

Erzincan: Keşiş D., above Üzümlü, 1650 m, 06 vii 2002, steppe, *Kandemir* 4408.

*Falcaria vulgaris* Bernh.

Erzincan: Dağınık D., Kızlar Castle, 2050 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, meadow, *Kandemir* 5851; Kolçekmez D., Çamlık, 2100 m, 13 vii 2003 damp places, *Kandemir* 5598, Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, slopes, *Kandemir* 5760.

*Ferula orientalis* L.

Erzincan: Keşiş D., above Üzümlü, steppe, 39°44'26" N, 39°42'09" E, 2177 m, 15 vii 2004, *Kandemir* 6436; Dağınık D., Kızlar Castle, 2100 m, 20 vii 2002, steppe, *Kandemir* 4832, Ir.-Tur.

*Ferula szowitsiana* DC.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 375, Ir.-Tur.

*Ferulago longistylis* Boiss.

Erzincan: From Erzincan to Sakaltutan 20 km, 1549 m, 25 vi 2006, slopes, *Kandemir* 7781, End., Ir.-Tur.

*Ferulago pauciradiata* Boiss. & Heldr.

Erzincan: Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, steppe, *Kandemir* 6662; Keşiş D., above Ekşisu, 2000 m, 12 viii 2002, in valley, *Kandemir* 4974, Gümüşhane: Sipikör D., around Güllüce village, 2155 m, 39°54'90" N, 39°39'70" E, 01 viii 2004, steppe, *Kandemir* 6612, End., Ir.-Tur.

*Ferulago setifolia* C.Koch

Erzincan: Keşiş D., Tekçam, 2200 m, 06 vii 2002, slopes, *Kandemir* 4725; Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, flowing slopes, *Kandemir* 4833, Ir.-Tur.

*Grammosciadium daucoides* DC.

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, watery places, *Kandemir* 6144, Ir.-Tur.

*Grammosciadium pterocarpum* Boiss.

Erzincan: Keşiş D., Ekşisu Road, to Ekşisu 500 m, 1450 m, 24 vi 2002, gravelly places, *Kandemir* 4044, Ir.-Tur.

*Heracleum antasiaticum* Manden

Gümüşhane: Akdağ, 1778 m, 39°54'67" N, 39°26'61" E, 25 vii 2004, roadside, watery places, *Kandemir* 6608, Eux.

*Heracleum pastinacifolium* C.Koch subsp. *incanum* (Boiss. & Huet) Davis

Erzincan: Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, pasture-land, *Kandemir* 6788, End.

\**Heracleum trachyloma* Fisch. & Mey.

Erzincan: Kolçekmez D., 2000 m, 13 vii 2003, shady places, *Kandemir* 5601, Gümüşhane: Akdağ, 1778 m, 39°54'67" N, 39°26'61" E, 25 vii 2004, roadside, *Kandemir* 6607; Sipikör D., around Güllüce village, 1176 m, 39°54'33" N, 39°38'65" E, 01 viii 2004, streamside, *Kandemir* 6657,

*Hippomrathrum microcarpum* (Bieb.) Fedtsch

Erzincan: Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside slopes, *Kandemir* 6667; Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, flowing slopes, *Kandemir* 4833; Sakaltutan, 2100 m, 05 vii 2003, roadside, *Kandemir* 5466.

*Ligusticum alatum* (Bieb.) Sprengel

Gümüşhane: Sipikör Pass, 2300 m, 09 viii 2003 watery places, *Kandemir* 5742. *Malabaila dasyantha* (C.Koch) Grossh.

Erzincan: Keşiş D., Ekşisu, around Çakırman village, 1450 m, 24 vi 2002, gravelly places, *Kandemir* 4035, Ir.-Tur.

\**Malabaila pastinacifolia* Boiss. & Bal.

Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6602, End.

\**Peucedanum chryseum* (Boiss. & Heldr.) Chemberlain

Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6600, End.

*Pimpinella anthriscoides* Boiss. subsp. *anthriscoides*

Erzincan: Sakaltutan, 2428 m, 39°53'69" N, 39°08'09" E, 06 viii 2004, meadow, *Kandemir* 6699, Ir.-Tur.

*Pimpinella corymbosa* Boiss.

Erzincan: Keşiş D., above Üzümlü, 1800 m, 20 vii 2002, slopes, *Kandemir* 4861; Kolçekmez D., 1450 m, 13 vii 2003, steppe, *Kandemir* 5614, Ir.-Tur.

*Pimpinella rhodantha* Boiss.

Gümüşhane: Sipikör D., Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, rocky, *Kandemir* 6522.

*Pimpinella saxifraga* L.

Erzincan: Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, stony places, *Kandemir* 6838; Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, streamside, *Kandemir* 6798, Gümüşhane: Sipikör Pass, 2554 m, 39°52'57" N, 39°34'52" E, 08 vii 2004, rocky slopes, *Kandemir* 6396.

*Prangos pabularia* Lindley

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, 3787; Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside, *Kandemir* 6670, Ir.-Tur.

*Prangos platychlaena* Boiss. ex Tchihat.

Erzincan: Sakaltutan, 2397 m, 39°53'38" N, 39°08'30" E, 06 viii 2004, steppe, *Kandemir* 6710; Dağınık D., above

Kızlar Castle, 1900 m, 22 vi 2003, rocky, *Kandemir* 5344, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6603; D., around Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, slopes, *Kandemir* 6630, End., Ir.-Tur.

*Scandix aucheri* Boiss.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky, *Kandemir* 3735, Ir.-Tur.

*Scandix stellata* Banks & Sol.

Erzincan: Bayırbağ, 1280 m, 26 v 2002, slopes, *Kandemir* 3689.

*Turgenia latifolia* (L.) Hoffm.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, roadside, *Kandemir* 4015.

*Xanthogalum purpurascens* Lallemand

Erzincan: Keşiş D. above Üzümlü, Çamlık, 2440 m, 39°45'54" N, 39°44'38" E, 15 vii 2004, in forest, streamside, *Kandemir* 6457, Gümüşhane: Sipikör D., Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, rocky, *Kandemir* 6523.

*Zosima absinthifolia* (Vent.) Link

Erzincan: Keşiş D., Turna River, 2164 m, 39°51'65" N, 39°43'11" E, 26 vi 2004, slopes, *Kandemir* 6263.

#### ASCLEPIADACEAE

*Vincetoxicum canescens* (Willd.) Decne. subsp. *canescens*

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3779.

#### ASTERACEAE

*Achillea biebersteinii* Afan.

Erzincan: Keşiş D., above Üzümlü, 2177 m, 39°44'26" N, 39°42'09" E, 15 vii 2004, steppe, *Kandemir* 6435, Ir.-Tur.

*Achillea coarctata* Poir

Erzincan: Keşiş D., above Üzümlü, 2500 m, 20 vii 2002 slopes, *Kandemir* 4769.

*Achillea kotschyi* Boiss. subsp. *kotschyi*

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, slopes, *Kandemir* 5023, Gümüşhane: Sipikör D., 2496 m, 39°53'04" N, 39°32'57" E, 08 vii 2004, pasture-land, *Kandemir* 6357, Medit.

*Achillea millefolium* L. subsp. *millefolium*

Gümüşhane: Sipikör D., Güllüce village, 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, shady places, *Kandemir* 5785, Euro.-Sib.

*Achillea schischkinii* Sosn.

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6251; Sakaltutan, 2015 m, 39°52'08" N, 39°06'35" E, 30 iv 2005, flowing slopes, *Kandemir* 6881, End., Ir.-Tur.

*Achillea sipikörensii* Hausskn. & Bornm.

Gümüşhane: Sipikör Pass, 2172 m, 39°51'17" N, 39°32'95" E, 26 vi 2004, roadside, *Kandemir* 6212, End., Ir.-Tur.

*Achillea wilhelmsii* C.Koch

Erzincan: Dağınık D., Kızlar Castle, 1950 m, 14 vi 2003, steppe, *Kandemir* 5218, Ir.-Tur.

\**Anthemis cretica* L. subsp. *iberica* (Bieb.) Grierson

Erzincan: Dağınık D., 3000 m, 27 viii 2003, colluvial soil, *Kandemir* 5836; Kolçekmez D. Pass, 2100 m, 20 ix 2003, roadside, flowing soil, *Kandemir* 5892; Keşiş D., above Üzümlü, 3110 m, 39°47'30" N, 39°40'39" E, 16 vii 2005, slopes, *Kandemir* 7058, Eux.

*Anthemis melanoloma* Trautv. subsp. *melanoloma*

Gümüşhane: Sipikör D., 2327 m, 39°54'37" N, 39°40'44" E, 01 viii 2004, top of forest, *Kandemir* 6649, End.

*Anthemis tinctoria* L. subsp. *tinctoria*

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5025.

*Arctium minus* (Hill.) Bernh subsp. *pubens* (Babington) Arenes

Gümüşhane: Pöske D. 2000 m, 19 viii 2003, in forest, *Kandemir* 5811, Euro.-Sib.

*Artemisia absinthium* L.

Erzincan: Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, steppe, *Kandemir* 5485, Gümüşhane: Pöske D., 1950 m, 10 vii 2003, forest side, *Kandemir* 5514.

*Artemisia austriaca* Jacq.

Erzincan: Keşiş D., Yedigöller, 2200 m, 27 vii 2002 roadside, *Kandemir* 4978; Dağınık D., Kızlar Castle, 1950 m, 27 viii 2003, steppe, *Kandemir* 5862

\**Artemisia santonicum* L.

Erzincan: Keşiş D., above Ekşisu, 2000 m, 10 viii 2002, steppe, *Kandemir* 5009, Euro.-Sib.

*Aster alpinus* L.

Erzincan: Keşiş D., around Yedigöller, 2600 m, 27 vii 2002, damp meadow, *Kandemir* 4912, Gümüşhane: Sipikör D., 2400 m, 13 vii 2003, alpine meadow, *Kandemir* 5539.

*Aster amellus* L. subsp. *ibericus* (Stev.) Avetisian

Erzincan: Sipikör D., 2390 m, 39°52'13" N, 39°33'96" E, 08 vii 2004, limestone, *Kandemir* 6386, Eux.

*Carduus lanuginosus* Willd.

Erzincan: Keşiş D. above Üzümlü, 2323 m, 39°45'31" N, 39°43'39" E, 15 vii 2004, rocky, *Kandemir* 6439, End.

\**Carduus nutans* L. subsp. *leiophyllus* (Petr.) Stoj. & Stef.

Erzincan: Bayırbağ, 1400 m, 06 vii 2002, damp places, *Kandemir* 4760.

*Carlina oligocephala* Boiss. & Kotschy subsp. *oligocephala*

Erzincan: Pöske D., around Ahmetli village, 2100 m, 24 viii 2003, roadside, steppe, *Kandemir* 5824.

\**Carthamus dentatus* Vahl

Erzincan: Keşiş D., above Üzümlü, 1500 m, 28 viii 2004, roadside, *Kandemir* 6815.

*Centaurea armena* Boiss.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, pasture-land, *Kandemir* 4201; Keşiş D., above Üzümlü, 2300 m, 20 vii 2002, pasture-land, *Kandemir* 4837, Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, slopes, *Kandemir* 6409, End.

*Centaurea carduiformis* DC. subsp. *orientalis* Wagenitz

Erzincan: Ağılözü, 1654 m, 05 vii 2003, *Kandemir* 5465.

*Centaurea depressa* Bieb.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, pasture-land, *Kandemir* 4130.

*Centaurea glastifolia* L.

Erzincan: Pöske D., around Ahmetli village, 10 vii 2003, pasture-land, *Kandemir* 5497, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, damp meadow, *Kandemir* 6586, Ir.-Tur.

*Centaurea huber-morathii* Wagenitz

Erzincan: Pöske D., near Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 14 vi 2003, *Kandemir* 5224; Sakaltutan, around Koçyatağı village, 2000 m, 28 vii 2006, pasture-land, *Kandemir* 7792, End.

*Centaurea lanigera* DC.

Erzincan: Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, stony places, *Kandemir* 6690; Keşiş D. Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, stony places, *Kandemir* 6319, End., Ir.-Tur.

*Centaurea pyrrhoblephara* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, rocky, *Kandemir* 3939; Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, rocky, *Kandemir* 4115, End., Ir.-Tur.

*Centaurea saligna* (C.Koch) Wagenitz

Erzincan: Keşiş D., above Geyikli village, 1710 m, 12 viii 2002, steppe, *Kandemir* 4983; Keşiş D., above Üzümlü, 1751 m, 39°43'67" N, 39°41'67" E, 15 vii 2004, steppe, *Kandemir* 6448, End., Ir.-Tur.

*Centaurea sessilis* Willd.

Erzincan: Keşiş D., Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6338; Sakaltutan, 2428 m, 39°53'69" N, 39°08'09" E, 06 viii 2004, steppe, *Kandemir* 6696; from Erzincan to Kelkit, Davarlı, 1836 m, 14 vi 2003, *Kandemir* 5269, End., Ir.-Tur.

*Centaurea solstitialis* L., subsp. *solstitialis*

Erzincan: Keşiş D., above Üzümlü, 2000 m, 20 vii 2002, roadside, *Kandemir* 4864.

*Centaurea triumfettii* All.

Erzincan: Keşiş D., above Üzümlü around irrigation pond, 1740 m, 25 v 2002, *Kandemir* 3647.

*Centaurea urvillei* DC. subsp. *armata* Wagenitz

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3911, E. Medit.



\**Centaurea urvillei* DC. subsp. *steppeposa*  
Wagenitz

Erzincan: Sipikör D., 2202 m, 09 viii 2003, in valley, dried river bed, *Kandemir* 5770, Ir.-Tur.

*Chondrilla juncea* L. subsp. *juncea*

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1450 m, 23 viii 2002, *Kandemir* 5045.

*Cicerbita racemosa* (Willd.) Beauverd

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, damp places, *Kandemir* 4279, Eux.

*Cichorium intybus* L.

Erzincan: Keşiş D., above Ekşisu, 1100 m, 10 viii 2002, roadside, *Kandemir* 4996.

*Cirsium arvense* (L.) Scop. subsp. *vestitum* (Wimmer & Grab.) Petrak

Erzincan: Kolçekmez D., Çamlık, 2075 m, 09 viii 2003, streamside, *Kandemir* 5728.

*Cirsium cephalotes* Boiss.

Gümüşhane: Sipikör D., 2100 m, 09 viii 2003, roadside, *Kandemir* 5734.

*Cirsium elodes* Bieb.

Erzincan: Keşiş D., above Üzümlü, 1800 m, in valley, 23 viii 2002, streamside, *Kandemir* 5074, Ir.-Tur.

*Cirsium lappaceum* (Bieb.) Fischer subsp. *anatolicum* Petrak

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, forest side, *Kandemir* 5812; Akdağ, 2300 m, 19 viii 2003, colluvial soil, roadside, *Kandemir* 5822, Ir.-Tur.

*Cirsium macrobotrys* (C.Koch) Boiss.

Erzincan: Sipikör D., 2100 m, 09 viii 2003, *Kandemir* 5735.

*Cirsium simplex* C.A.Meyer subsp. *armenum* (DC.) Petrak

Erzincan: Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, pasture-land, *Kandemir* 6789; from Erzincan to Çayırılı Road, 3 km, 1350 m, 09 viii 2003, steppe, *Kandemir* 5733.

\**Cirsium simplex* C.A.Meyer subsp. *simplex*

Erzincan: Kolçekmez D., Çamlık, 2705 m, 09 viii 2003, streamside, *Kandemir* 5729, Eux.

*Cirsium sommierii* Petrak

Erzincan: Keşiş D., above Ekşisu, 1600 m, 12 viii 2002, roadside, *Kandemir* 5042, End., Ir.-Tur.

*Cirsium vulgare* (Savi.) Ten.

Erzincan: Keşiş D., above Üzümlü, 1400 m, 23 viii 2003, shady places, *Kandemir* 5061.

*Conyza canadensis* (L.) Cronquist

Erzincan: From Erzincan to Kelkit, Davarlı, 1400 m, 26 vii 2003, damp pasture-land, *Kandemir* 5711.

*Cousinia bicolor* Freyn & Sint.

Erzincan: Kolçekmez D., 1787 m, 39°47'28" N, 39°30'72" E, 23 vii 2004, steppe, *Kandemir* 6541, End., Ir.-Tur.

*Cousinia canescens* DC.

Erzincan: Sipikör Pass, 2300 m, 20 ix 2003, roadside *Kandemir* 5894, Ir.-Tur.

*Cousinia eriocephala* Boiss. & Hausskn.

Erzincan: Keşiş D., Yedigöller, 2200 m, 27 vii 2002, roadside, *Kandemir* 4977; Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6250, Gümüşhane: Sipikör Pass, 2300 m, 07 viii 2004, roadside, *Kandemir* 6718; Gümüşhane: Sipikör Pass, 2300 m, 20 ix 2003, roadside, *Kandemir* 5894, End., Ir.-Tur.

*Crepis armena* DC.

Erzincan: Keşiş D., above Yaylalar village, 2100 m, 39°50'56" N, 39°47'63" E 29 vi 2002 stony slopes, *Kandemir* 4097; Keşiş D., above Üzümlü, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, steppe, *Kandemir* 6477, Gümüşhane: Sipikör D., 2426 m, 19 vi 2004, *Kandemir* 6186, End., Ir.-Tur.

*Crepis dioritica* Schott & Ky. ex Boiss.

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, stony places, *Kandemir* 5327, Gümüşhane: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6369, End.

*Crepis wildenowii* Czer.

Erzincan: Around Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, roadside, *Kandemir* 6684; Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places,

*Kandemir* 6341; Kolçekmez D. Pass, 2403 m, 39°49'40" N, 39°31'70"E, 29 vi 2003, steppe, *Kandemir* 5373, Ir.-Tur.

\**Crupina vulgaris* Cass.

Erzincan: Dağınık D., around Çakırman village, 1700 m, 02 vi 2002, open areas, *Kandemir* 3742.

\**Doronicum haussknechtii* Cavill

Erzincan: Keşiş D., Tekçam Buzhane, 2600 m, 06 vii 2002, streamside, *Kandemir* 4245, Gümüşhane: Sipikör D., 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, top of forest, *Kandemir* 6406, End., Medit.

*Ecinos galaticus* Freyn

Erzincan Pöske D., 1950 m, 10 vii 2003, under forest, *Kandemir* 5516, Eux.

*Ecinos pungens* Trautv.

Erzincan: Keşiş D., above Üzümlü, 1600 m, 23 viii 2002, steppe, *Kandemir* 5081.

*Erigeron acer* L. subsp. *acer*

Erzincan: Keşiş D., above Üzümlü, 2500 m, 20 vii 2002, streamside, *Kandemir* 4780.

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

Erzincan: Keşiş D., Tekçam, 2550 m, 06 vii 2002, forest side, *Kandemir* 4251; Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, streamside, pasture-land, *Kandemir* 6792; Pöske D., around Çilli Lake, 2141 m, 10 vii 2003, pasture-land, *Kandemir* 5480.

*Eupatorium cannabinum* L.

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1450 m, 23 viii 2002, *Kandemir* 5060, Euro.-Sib.

*Helichrysum arenarium* (L.) Moench. subsp. *erzincanicum* Davis & Kupicha

Erzincan: Pöske D., around Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, pasture-land, 14 vi 2003, *Kandemir* 5231, End., Ir.-Tur.

*Helichrysum armenium* DC. subsp. *araxinum* (Kirp.) Takht.

Erzincan: Keşiş D., above Geyikli village, 2200 m, 12 viii 2002, roadside, *Kandemir* 4956; from Erzincan to Kolçekmez D., 1450 m, 13 vii 2003, roadside, gravelly places, *Kandemir* 5613.

\**Helichrysum arenarium* (L.) Moench subsp. *aucheri* (Boiss.) Davis & Kupicha

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, damp meadow, *Kandemir* 6136, Gümüşhane: Sipikör D., 2327 m, 39°54'37" N, 39°40'44" E, 01 viii 2004, steppe, *Kandemir* 6647, End., Ir.-Tur.

*Helichrysum armenium* DC. subsp. *armenium*

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, steppe, *Kandemir* 5026, Ir.-Tur.

*Helichrysum chionophilum* Boiss. & Bal.

Erzincan: Around Karadağ Radio Linkage Station, 2806 m, 05 vii 2003, steppe, *Kandemir* 5445, Gümüşhane: Sipikör D., 2400 m, 13 vii 2003, pasture, *Kandemir* 5541, End.

*Helichrysum noeanum* Boiss.

Erzincan: Sipikör Pass, 2350 m, 39°52'98" N, 39°34'00" E, 20 ix 2003, limestone, *Kandemir* 5894, End., Ir.-Tur.

*Helichrysum pallasi* (Sprengel) Ledeb.

Erzincan: Keşiş D., around Yedigöller, 2600 m, 27 vii 2002 slopes, *Kandemir* 4911; Keşiş D., above Üzümlü, 2800 m, 20 vii 2002 gravelly areas, *Kandemir* 4806, Ir.-Tur.

*Helichrysum plicatum* DC. subsp. *plicatum*

Erzincan: Ağılözü, 1654 m, 05 vii 2003, stony places, *Kandemir* 5461; Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, steppe, *Kandemir* 6663.

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

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, stony places, *Kandemir* 4817; Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6335, Gümüşhane: Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, forest side, *Kandemir* 5689.

*Hieracium asterodermum* (Woronow & Zahn) Juxip

Gümüşhane: Sipikör D., around Güllüce village, 1176 m, 39°54'33" N, 39°38'65" E, 01 viii 2004, pasture-land, *Kandemir* 6660; Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, 01 viii 2004, under forest, *Kandemir* 6633, Eux.

*Hieracium erythrocarpum* Peter s.l.

Gümüşhane: Sipikör D., 2390 m, 39°53'48" N, 39°32'85" E, 08 vii 2004, forest side, *Kandemir* 6360, Euro.-Sib.

*Hieracium laevigatum* Willd.

Gümüşhane: Sipikör D., around Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, in valley, above rocks, *Kandemir* 6625; Sipikör D., Güllüce, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, steppe, *Kandemir* 6626, Euro.-Sib.

\**Hieracium lasiachaetum* (Bornm. & Zahn) Sell & West

Gümüşhane: Sipikör D., 2390 m, 39°53'48" N, 39°32'85" E, 08 vii 2004, forest side, *Kandemir* 6361.

*Hieracium lazicum* Boiss. & Bal.

Gümüşhane: Sipikör D., around Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, above rocks, *Kandemir* 6624; Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, rocky, *Kandemir* 6807, End., Eux.

*Hieracium pannosum* Boiss.

Gümüşhane: Sipikör D., around Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, above rocks, *Kandemir* 6623.

*Inula acaulis* Schott & Kotschy ex Boiss. var. *caulascens* Nab.

Erzincan: Keşiş D., around Yedigöller, 2800 m, 27 vii 2002, damp places, *Kandemir* 4934.

*Inula heterolepis* Boiss.

Gümüşhane: Sipikör D., 2000 m, 20 ix 2003, limestone, *Kandemir* 5890, Medit.

*Inula montberitiana* DC.

Erzincan: Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, stony places, *Kandemir* 6793; Kolçekmez D. Pass, 2000 m, 29 vi 2003, steppe, *Kandemir* 5382.

*Inula oculus-christi* L.

Erzincan: Pöske D., 2100 m, 10 vii 2003, *Kandemir* 5518, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6596, Euro.-Sib.

*Inula salicina* L.

Erzincan: Keşiş D., above Geyikli village, 2200 m, 12 viii 2002, damp meadow,

*Kandemir* 4961; Gümüşhane: Sipikör D., Yerebatan, 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, in valley, damp places, *Kandemir* 5796, Euro.-Sib.

*Inula thapsoides* (Bieb. ex Willd.) Sprengel subsp. *thapsoides*

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, under forest, *Kandemir* 5805.

*Jurinea alpigena* C.Koch

Erzincan: Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5266, End., Eux.

*Jurinea aucherana* DC.

Erzincan: Başköy, 2029 m, 39°52'55" N, 39°46'01" E, 07 viii 04, steppe, *Kandemir* 6738, Ir.-Tur.

*Jurinea brevicaulis* Boiss.

Erzincan: From Erzincan to Kelkit, Davarlı, 1550 m, 26 vii 2003, dried river bed, *Kandemir* 5724, End., Ir.-Tur.

*Jurinea cataonica* Boiss. & Hausskn.

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1650 m, 23 viii 2002, roadside, slopes, *Kandemir* 5091; Kolçekmez D., 1600 m, 09 viii 2003, roadside, slopes, *Kandemir* 5731, End.

*Jurinea pontica* Hausskn. & Freyn ex Hausskn.

Erzincan: Dağınık D., Kızlar Castle, 1940 m, 39°46'92" N, 39°35'52" E, 17 vii 2004, steppe, *Kandemir* 6480; Kolçekmez D. Pass, 2000 m, 29 vi 2003, steppe, *Kandemir* 5381, End., Ir.-Tur.

*Jurinella moschus* (Habl.) Bobrov subsp. *moschus*

Erzincan: Keşiş D., Tekçam P., 2700 m, 06 vii 2002, serpentine, *Kandemir* 4247, Gümüşhane: Sipikör D., 2426 m, 19 vi 2004, serpentine, *Kandemir* 6186, Ir.-Tur.

*Jurinella moschus* (Habl.) Bobrov subsp. *pinnatisecta* (Boiss.) Danin & Davis

Erzincan: Keşiş D., Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, serpentine, *Kandemir* 6305, Ir.-Tur.

\**Lactuca saligna* L.

Erzincan: Keşiş D., above Üzümlü, 1650 m, 28 viii 2002, steppe, *Kandemir* 5047.

*Lactuca undulata* Ledeb.

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, roadside, *Kandemir* 5816, Ir.-Tur.

*Lapsana communis* L. subsp. *alpina* (Boiss. & Bal.) Sell.

Erzincan: Sipikör Pass, 2200 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, limestone, *Kandemir* 6526, Eux.

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

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, flowing slopes, *Kandemir* 4819, Gümüşhane: Pöske D., 1950 m, 10 vii 2003, in forest, *Kandemir* 5511.

*Leontodon asperrimus* (Willd.) J.Ball.

Erzincan: Keşiş D., above Üzümlü, 3071 m, 39°48'18" N, 39°39'98" E, 16 vii 2005, serpentine, *Kandemir* 7066, Ir.-Tur.

*Leontodon crispus* Vill. subsp. *asper* (Waldst. & Kit.) Rohl.

Erzincan: Handere, 1993 m, 29 vi 2003, roadside, *Kandemir* 5406.

*Leontodon hispidus* L. var. *hispidus*

Erzincan: Pöske D., around Çilli Lake, 2141 m, 10 vii 2003, *Kandemir* 5469.

*Onopordum acanthium* L.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, roadside, *Kandemir* 5006.

*Picnomon acarna* (L.) Cass.

Erzincan: Keşiş D., above Geyikli village, 2000 m, 12 viii 2002, *Kandemir* 4969, Medit.

*Picris hieracioides* L.

Erzincan: Pöske D., 2000 m, 19 viii 2003, roadside, *Kandemir* 5817; Keşiş D., above Ekşisu, 2200 m, 10 viii 2002 roadside, *Kandemir* 5016, Euro.-Sib.

*Pilosella cymosa* (L.) C.H. & F.W.Schultz

Gümüşhane: Sipikör D., 2310 m, 39°53'57" N, 39°36'05" E, 26 vi 2004, gravelly places, *Kandemir* 6218, Euro.-Sib.

\**Pilosella praealtum* Vill. subsp. *praealtum*

Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6569.

*Pilosella verriculata* (Link.) Sojak

Erzincan: Pöske D., around Ahmetli village, 2000 m, 10 vii 2003, damp meadow, *Kandemir* 5496.

*Pilosella x macrotricha* (Boiss.) C.H. & F.W.Schultz

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, rocky place, *Kandemir* 4820.

*Pulicaria dysenterica* (L.) Bernh.

Erzincan: Dağınık D., Kızlar Castle, 2055 m, 27 viii 2003, damp meadow, *Kandemir* 5850.

*Reichardia glauca* Matthews

Erzincan: Around Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, roadside, *Kandemir* 6674; Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, roadside, colluvial soil, *Kandemir* 4964, Ir.-Tur.

*Scorzonera cana* (C.A.Meyer) Hoff. var. *cana*

Erzincan: Keşiş D., Tekçam, 2700 m, 06 vii 2002, stony places, *Kandemir* 4233; Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, pasture-land, *Kandemir* 5244, Gümüşhane: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6375.

*Scorzonera cinerea* Boiss.

Erzincan: Keşiş D., Yedigöller, 2600 m, 27 vii 2002, slopes, *Kandemir* 4906, Ir.-Tur.

*Scorzonera insica* DC.

Gümüşhane: Sipikör D., around Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, slopes, *Kandemir* 6167, Ir.-Tur.

*Scorzonera latifolia* (Fisch. & Mey.) DC.

Erzincan: Keşiş D., above Üzümlü, 1650 m, 23 viii 2002, steppe, *Kandemir* 5054, Ir.-Tur.

*Scorzonera mollis* Bieb. subsp. *mollis*

Erzincan: Keşiş D., Tekçam, 2250 m, 39°44'02" N, 39°47'82" E, 08 vi 2003, damp places, *Kandemir* 5212; Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 02 vi 2004, pasture-land, *Kandemir* 6028.

*Scorzonera mollis* Bieb. subsp. *szowitzii* (DC.) Chamberlain

Erzincan: Above Pi'kida'ı village, 2541 m, 39°41'02" N, 39°48'99" E, 24 v 2003, gravelly slopes, *Kandemir* 5149; Dağınık D., above Çakırman, 2700 m, 22 vi 2003, stony places, *Kandemir* 5320.

*Scorzonera pseudolanata* Grossh.

Erzincan: Keşiş D., above Günebakan village, 1420 m, 14 iv 2002, steppe, *Kandemir* 3505 Ir.-Tur. Gümüşhane: Sipikör, around Ku'luk village, 2086 m, 02 vi 2004, *Kandemir* 6019.

*Scorzonera rigida* Hand.-Mazz.

Erzincan: Pöske D., above Ahmetli village, 2148 m, 10 vii 2003, on rocks, *Kandemir* 5534, Gümüşhane: Sipikör D., 2172 m, 39°51'17" N, 39°32'95" E, 26 vi 2004, on rocks, *Kandemir* 6215, Ir.-Tur.

*Scorzonera sericea* DC.

Erzincan: Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6340; Keşiş D., 2800 m, 20 vii 2002, serpentine, *Kandemir* 4811, End.

*Scorzonera suberosa* C.Koch. subsp. *suberosa*

Erzincan: Sipikör D., 2086 m, 39°54'75" N, 39°37'66" E, 02 vi 2004, subalpine meadow, *Kandemir* 6016, Ir.-Tur.

*Scorzonera tomentosa* L.

Erzincan: Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, slopes, *Kandemir* 6681, Gümüşhane: Sipikör D., around Güllüce village, 2155 m, 39°54'90" N, 39°39'70" E, 01 viii 2004, steppe, *Kandemir* 6613, End., Ir.-Tur.

*Senecio cilicius* Boiss.

Gümüşhane: Sipikör D. Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, rocky, *Kandemir* 6515; Akdağ-Sipikör, 2383 m, 39°53'07" N, 39°30'11" E, 07 viii 2004, steppe, *Kandemir* 6716, End., Ir.-Tur.

*Senecio doriiformis* DC. subsp. *orientalis* (Fenzl) Matthews

Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, shady places, *Kandemir* 6804; Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, forest side, *Kandemir* 6573, Ir.-Tur.

*Senecio eriospermus* DC. subsp. *eriospermus*

Gümüşhane: Sipikör D., around Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, pastures, *Kandemir* 6174, End., Ir.-Tur.

\**Senecio erucifolius* L.

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1450 m, 23 viii 2002, streamside, *Kandemir* 5053; Kolçekmez D., Çamlık, 09 viii 2003, streamside, *Kandemir* 5772.

*Senecio hypochionaeus* Boiss. var. *argeus* (Boiss. & Bal.) Matthews

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir* 4697; Dağınık D., above Kızlar Castle, 2300 m, 22 vi 2003, rocky slopes, *Kandemir* 5335; Keşiş D., above Cimın, 2800-2900 m, D. 31786, End.

*Senecio hypochionaeus* Boiss. var. *ilkasiensis* Freyn & Sint.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, flowing slopes, *Kandemir* 4110; Keşiş D., Tekçam, 2300 m, 06 vii 2002, rocky, *Kandemir* 4697, End.

*Senecio nemorensis* L. subsp. *nemorensis*

Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, forest side, *Kandemir* 6406.

*Senecio othonnae* Bieb.

Erzincan: Pöske D., 2100 m, 26 vii 2003, forest side, *Kandemir* 5692, Euro.-Sib.

*Senecio pseudo-orientalis* Schischkin

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6235, Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, slopes, *Kandemir* 6410; Sipikör D., Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, limestone, *Kandemir* 6516, Ir.-Tur.

*Senecio racemosus* (Bieb.) DC.

Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, damp meadow, *Kandemir* 6585; Sipikör D., 2303 m, 39°54'16" N, 39°39'68" E, 01 viii 2004, streamside, *Kandemir* 6656, Ir.-Tur.

*Senecio vernalis* Waldst. & Kit.

Erzincan: Keşiş D., around Geyikli village, 1400 m, 05 v 2002, fields, *Kandemir* 3520; Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, roadside, *Kandemir* 3850.

*Senecio viscosus* L.

Erzincan: Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, stony slopes, *Kandemir* 5481; Pöske D., 2350 m, 39°54'39" N, 39°21'01" E, 26 vii 2003, rocky, *Kandemir* 5670.

*Serratula serratuloides* (DC.) Takhtajan

Erzincan: Bayırbağ, 300 m, 24 v 2003, flowing slopes, *Kandemir* 5125, Ir.-Tur.

*Solidago virgaurea* L. subsp. *virgaurea*

Erzincan: Sakaltutan, 2300 m, 05 vii 2003, serpentine, slopes, *Kandemir* 5434, Gümüşhane: Sipikör D., 2100 m, 02 vii 2002, slopes, *Kandemir* 5579; Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, forest side, *Kandemir* 5686.

*Sonchus asper* (L.) Hill. subsp. *glaucescens* (Jordan) Ball.

Erzincan: Pöske D., around Ahmetli village, 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, *Kandemir* 5525.

*Sonchus palustris* L.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, watery places, *Kandemir* 5039.

*Stappetorhamphus tuberosus* (Jacq.) Grossh.

Erzincan: Keşiş D. above Üzümlü, 2661 m, 15 vii 2004, flowing slopes, *Kandemir* 6479.

*Tanacetum abrotanifolium* (L.) Druce

Erzincan: Pöske D., around Ahmetli village, 2100 m, 10 vii 2003, pasture-land, *Kandemir* 5498; Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, forest side, *Kandemir* 5681, Gümüşhane: Sipikör D., South-east of Mecidiye village, 2314 m, 39°50'76" N, 39°32'89" E, 23 vii 2004, steppe, *Kandemir* 6545, Ir.-Tur.

*Tanacetum albipannosum* Hub.-Mor. & Grierson

Gümüşhane: Sipikör Pass, 2554 m, 39°52'57" N, 39°34'52" E, 08 vii 2004, slopes, *Kandemir* 6390, End., Ir.-Tur.

*Tanacetum argyrophyllum* (C.Koch) Tvetz. subsp. *argrophyllum*

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, stony steppe, *Kandemir* 4047; Bayırbağ, 1500 m, 06 vii 2002, stony steppe, *Kandemir* 4747, Ir.-Tur.

*Tanacetum armenum* (DC.) Schultz Bip.

Erzincan: Dağınık D., 2500 m, 08 vi 2002, rocky, *Kandemir* 3795; Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, rocky, *Kandemir* 6791.

*Tanacetum aucheranum* (DC.) Schultz Bip.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, limestone, *Kandemir* 3967; Keşiş D., Tekçam 2300 m, 06 vii 2002, slopes, *Kandemir* 4703, Gümüşhane: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6366, Ir.-Tur.

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

Erzincan: Sipikör D. 2202 m, 39°52'18" N, 39°33'20" E, 09 v 2003, in valley, *Kandemir* 5768.

*Tanacetum balsamita* L. subsp. *balsamita*

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, in valley, under shrubs, *Kandemir* 5818.

*Tanacetum chiliophyllum* (Fisch. & Mey.) Schultz Bip. var. *chiliophyllum*

Erzincan: Keşiş D., above Üzümlü, 2661 m 39°44'86" N, 39°42'39" E, 15 vii 2004, limestone slopes, *Kandemir* 6476.

\**Tanacetum kotshyi* (Boiss.) Grierson

Erzincan: Keşiş D., above Üzümlü, 2800 m, 20 vii 2002, under rocks, *Kandemir* 4784; Dağınık D., above Kızlar Castle, 2300 m, 22 vi 2003, rocky, *Kandemir* 5329; Pöske D., 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, *Kandemir* 5531, Gümüşhane: Sipikör Pass, 2390 m, 39°52'13" N, 39°33'96" E, 08 vii 2004, limestone, *Kandemir* 6985, Ir.-Tur.

*Tanacetum mucroniferum* Hub.-Mor. & Grierson

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6249, Gümüşhane: Sipikör D., 2086 m, 39°54'75" N, 39°37'66" E, 02 vi 2004, subalpine meadow, *Kandemir* 6017, End.

*Tanacetum nitens* (Boiss. & Noe) Grierson

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, steppe, *Kandemir* 4708; Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, steppe, *Kandemir* 5475, Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°31'57" E, 08 vii 04, steppe, *Kandemir* 6409; Akdağ 1798 m, 39°52'27" N, 39°26'97" E, 25 vii 2002, steppe, *Kandemir* 6596, End.

*Tanacetum parthenium* (L.) Schultz Bip.

Erzincan: Pöske D., 1950 m, 10 vii 2003, under forest, *Kandemir* 5512.

\**Tanacetum punctatum* (Desr.) Grierson

Erzincan: Sipikör Pass, 2200 m, 03 ix 2003, watery pastures, *Kandemir* 5887, Eux.

*Tanacetum zahlbruckneri* (Nab.) Grierson

Erzincan: Keşiş D., Tekçam, 2600 m, 06 vii 2002, serpentine, slopes, *Kandemir* 4253, End., Ir.-Tur.

*Taraxacum crepidiforme* DC. subsp. *crepidiforme*

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 01 v 2004, damp meadow, *Kandemir* 5912, Ir.-Tur.

\**Tragopogon aureus* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2800 m, 20 vii 2002, pasture-land, *Kandemir* 4797, End.

*Tragopogon buphtalmoides* (DC.) Boiss. subsp. *buphtalmoides*

Erzincan: Keşiş D., around Yedigöller, 2500 m, 27 vii 2002, alpine meadow, *Kandemir* 4882; Keşiş D., above Yaylalar village, 2100 m, 39°50'56" N, 39°47'63" E, 29 vi 2002, roadside, *Kandemir* 4079.

\**Tragopogon dubius* Scop.

Erzincan: Keşiş D., Tekçam, 2220 m, 39°43'73" N, 39°47'39" E, 08 vi 2003, slopes, *Kandemir* 5211, Euro.-Sib.

\**Tripleurospermum melenolepis* (Boiss. & Buhse) Pobed.

Erzincan: Keşiş D., Yedigöller, 2433 m, 39°47'11" N, 39°46'06" E, 11 ix 2005, flowing slopes, *Kandemir* 7229.

*Tussilago farfara* L.

Erzincan: Keşiş D., above Üzümlü, 2480 m, 05 v 2002, streamside, *Kandemir* 3532, Euro.-Sib.

*Uechitritzia armena* Freyn & Sint.

Gümüşhane: Sipikör D. Yerebatan, 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, top of forest, *Kandemir* 5781, End., Ir.-Tur.

#### BERBERIDACEAE

*Berberis vulgaris* L.

Erzincan: Keşiş D., Yedigöller, 2400 m, 29 vi 2002, slopes, *Kandemir* 4131,

*Berberis crataegina* DC.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky place, *Kandemir* 3721; E'kisu, 1500 m, 08 vi 2002, in valley, *Kandemir* 3876; Bayırbağ, 1280 m, 25 v 2002, slopes, *Kandemir* 3699; Turna River, 2164 m, 39°51'65" N, 39°43'11" E, 26 vi 2004, streamside, *Kandemir* 6261, Ir.-Tur.

*Leontice leontopetalum* L. subsp. *leontopetalum*

Erzincan: Pöske D., Ahmetli village, 2031 m, 39°52'55" N, 39°20'95" E, 15 v 2004, alpine, slopes, *Kandemir* 5973.

#### BETULACEAE

*Betula litwinowii* Doluch.

Erzincan: Keşiş D. Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, streamside, *Kandemir* 6255; Keşiş D., above Cimin, 2500 m, D. 31699, Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, streamside, *Kandemir* 6728, Eux.

*Betula pendula* Roth

Erzincan: Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside, *Kandemir* 6669; Keşiş D., Tekçam, 2220 m, 39°43'73" N, 39°47'39" E, 08 vi 2003, streamside, *Kandemir* 5208; Keşiş D., above Yaylalar village, 2100 m, 39°50'56" N, 39°47'63" E, 29 vi 2002, streamside, stony places, *Kandemir* 4084.

#### BORAGINACEAE

*Alkanna orientalis* (L.) Boiss.

Erzincan: Keşiş D., around Geyikli village, 1400 m, 12 v 2002, roadside, *Kandemir* 3567.

*Anchusa azurea* Miller var. *azurea*

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3780.

\**Anchusa leptophylla* Roemer & Schultes Miller var. *leptophylla* Roemer & Schultes

Erzincan: From Erzincan to Çayırılı road, 6 km, 1450 m, 13 vii 2003, steppe, *Kandemir* 5611.

*Arnebia densiflora* (Nordm.) Ledeb.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3783, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, destructive places, *Kandemir* 6133.

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

Erzincan: Keşiş D., Tekçam, 2240 m, 39°44'63" N, 39°47'73" E, 07 vi 2003, damp places, *Kandemir* 5163; Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, rocky, *Kandemir* 3805, Euro.-Sib.

*Cynoglossum montanum* L.

Erzincan: Keşiş D., above Üzümlü, 1450 m, 08 vi 2002, roadside, *Kandemir* 3899, Gümüşhane: Sipikör D., 2100 m, 17 vii 2003, in valley, *Kandemir* 5570, Euro.-Sib.

*Heliotropium circinatum* Griseb.

Erzincan: Keşiş D., above Ekşisu, 1600 m, 10 viii 2002, steppe, *Kandemir* 5003, Ir.-Tur.

*Lappula barbata* (Bieb.) Gürke

Erzincan: Keşiş D., above Üzümlü, 1660 m, 25 v 2002, rocky, *Kandemir* 3675, Ir.-Tur.

*Lappula microcarpa* (Ledeb.) Gürke

Erzincan: Bayırbağ, 1280 m, 26 v 2002, slopes, *Kandemir* 3695, Ir.-Tur.

*Lithospermum officinale* L.

Erzincan: Bayırbağ, 1500 m, 06 vii 2002, shady places, *Kandemir* 4752, Euro.-Sib.

*Moltkia coerulea* (Willd.) Lehm.

Erzincan: Dağınık D., above E'kisu, 1450 m, 12 v 2002, gravelly slopes, *Kandemir* 3566; Kolçekmez D., 1796 m, 39°47'90" N, 39°30'81" E, 09 v 2004, steppe, *Kandemir* 5961, Ir.-Tur.

*Myosotis alpestris* F.W.Schmidt

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, shady places, *Kandemir* 3817.

*Myosotis lithospermifolia* (Willd.) Hornem.

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3634; Keşiş D., Tekçam, 2300 m, 06 vii 2002, rocky, *Kandemir* 4694, Gümüşhane: Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, damp meadow, *Kandemir* 6183.

*Myosotis stricta* Link ex Roemer & Schultes

Erzincan: Keşiş D., above Üzümlü, 1535 m, 05 v 2002, roadside, *Kandemir* 3545, Euro.-Sib.

\**Nonea caspia* (Willd.) G.Don.

Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, roadside, *Kandemir* 3557, Ir.-Tur.

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

Erzincan: Keşiş D., above Üzümlü, 1400 m, 08 vi 2002, pasture-land, *Kandemir* 3819, Gümüşhane: Sipikör D., Kovalık Pass, 2340 m, 25 v 2002, pasture-land, *Kandemir* 3641.

*Nonea stenosolen* Boiss. & Bal.

Erzincan: Keşiş D., above Üzümlü, 1660 m, 25 v 2006, pasture-land, *Kandemir* 3680, End., Ir.-Tur.

*Onosma armenum* DC.

Erzincan: Keşiş D., above Üzümlü, 2150 m, 15 vi 2002, slopes, *Kandemir* 3958, End.

*Onosma aucheranum* DC.

Erzincan: Above Pı'kida'ı village, 2541 m, 39°41'02" N, 39°48'99" E, 24 v 2003, slopes, *Kandemir* 5151, Medit.

\**Onosma bracteosum* Hausskn. & Bornm.

Erzincan: Keşiş D., above Üzümlü, 2150 m, 16 vi 2002, slopes, *Kandemir* 3959; Pöske D., 2066 m, 39°53'55" N, 39°22'77" E, 27 vi 2004, open oak, *Kandemir* 6265, End., Ir.-Tur.

*Onosma liparioides* DC.

Erzincan: Ahi D., 2590 m, 39°50'28" N, 39°34'45" E, 23 vii 2004, serpentine, flowing slopes, *Kandemir* 6563; Keşiş D., above Üzümlü, 3040 m, 39°45'78" N, 39°42'85" E, 28 viii 2004, serpentine, flowing slopes, *Kandemir* 6824 End., Ir.-Tur.

*Onosma microcarpum* Steven ex DC.

Erzincan: Keşiş D. Bayırbağ, 1300 m, 10 vi 2001, colluvial soil, *Kandemir* 3271, Ir.-Tur.

*Onosma nanum* DC.

Erzincan: Keşiş D. Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, pastures, *Kandemir* 6288, Gümüşhane: Sipikör Pass, 2050 m, 02 vi 2004, subalpine meadow, *Kandemir* 6020, End., Medit.

*Onosma rigidum* Ledeb.

Erzincan: Keşiş D., above Ekşisu, 2450 m, 08 vi 2002, rocky, *Kandemir* 3831, Euro.-Sib.

*Onosma roussaei* DC.

Erzincan: Keşiş D., above Üzümlü, 2200 m, 10 vi 2001, slopes, *Kandemir* 2306, Ir.-Tur.

*Onosma sericeum* Willd.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3874, Ir.-Tur.

*Onosma stenolobum* Hausskn. ex H. Riedl

Erzincan: Dağınık D., above Çakırman village, 2370 m, 29 vi 2002, slopes, *Kandemir* 4133, End., Ir.-Tur.

*Paracaryum sintenisii* Hausskn. ex Bornm.

Erzincan: Dağınık D., around Çakırman village, 39°46'12" N, 39°34'67" E, 22 vi 2003, slopes, *Kandemir* 5289, Ir.-Tur.

\**Rindera albida* (Wettst.) Kusn.

Erzincan: Keşiş D., Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 04, serpentine, slopes, *Kandemir* 6286, Ir.-Tur.

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

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3859.

*Solenanthes stamineus* (Desf.) Wettst.

Erzincan: above Karakaya village, 2300 m, 08 vi 2003, damp meadow, *Kandemir* 5199.

#### BRASSICACEAE

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

Erzincan: Keşiş D., above Üzümlü, 1740 m, 25 v 2002, *Kandemir* 3651.

*Aethionema armenum* Boiss.,

Erzincan: Keşiş D., above Üzümlü, 1700 m, 15 vi 2002, roadside, *Kandemir* 3973; Bayırbağ, 2000 m, 06 vii 2002, gravelly slopes, *Kandemir* 4741; Sipikör D., 2400 m, 13 vii 2003, gravelly slopes, *Kandemir* 5547, 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, *Kandemir* 5751, Dağınık D., around Çakırman village, 1450 m, 39°46'12" N, 39°34'69" E, 22 vi 2003, flowing slopes, *Kandemir* 5281, Ir.-Tur.

*Aethionema cordatum* (Desf.) Boiss.

Erzincan: Dağınık D., 2450 m, 08 vi 2002, slopes, *Kandemir* 3814; Keşiş D., Üzümlü, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, slopes, *Kandemir* 6469, Ir.-Tur.

*Aethionema eunomioides* (Boiss.) Bornm.

Erzincan: Keşiş D., 1600 m, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, rocky places, *Kandemir* 6468, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, pasture-land, *Kandemir* 6115, End.

*Aethionema membraneceum* DC.

Erzincan: Keşiş D., 2400 m, 20 vii 2002, slopes, *Kandemir* 4838, Ir.-Tur.

*Aethionema oppositifolium* (Pers.) Hedge

Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, rocky, *Kandemir* 6721.

*Aethionema speciosum* Boiss. & Huet.

Erzincan: Sipikör D., 2400 m, 13 vii 2003, stony places, *Kandemir* 5544; Keşiş D., above Ekşisu, 2080 m, 05 v 2002, pasture-land, *Kandemir* 3518, Ir.-Tur.

*Aethionema spicatum* Post

Erzincan: Keşiş D., above Üzümlü, 2600 m, 20 vii 2002, pasture slopes, *Kandemir* 4845; from Erzincan to Kelkit, 15 km, 1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, in valley, *Kandemir* 5255; Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, *Kandemir* 5478; Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5256.

\**Alliaria petiolata* (Bieb.) Cav. & Grande

Gümüşhane: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 18 vi 2003, under forest, *Kandemir* 5247.

- Alyssum aizoides* Boiss.  
Erzincan: Keşiş D., Tekçam, 3015 m, 06 vii 2002, stony places, *Kandemir* 4242, End.
- Alyssum armenum* Boiss.  
Erzincan: Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, lime rocky, *Kandemir* 6184; Keşiş D., around Yaylalar village, 2200 m, 29 vi 2003, *Kandemir* 4101, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, areas exposed to erosion, *Kandemir* 6128.
- Alyssum desertorum* Stapf var. *desertorum*  
Erzincan: Dağınık D., above Ekşisu, 1300 m, 05 v 2002, steppe, *Kandemir* 3524.  
\**Alyssum minus* (L.) Rothm. var. *minus*  
Erzincan: Bayırbağ, 1250 m, 26 v 2002, slopes, *Kandemir* 3683.
- Alyssum murale* Waldst. & Kit. subsp. *alpinum* Boiss. ex Nyár  
Erzincan: Ahi D., 2909 m, 39°50'67" N, 39°35'10" E, 23 vii 2004, lime places, *Kandemir* 6554.
- Alyssum ochroleucum* Boiss. & Huet  
Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, open areas, *Kandemir* 5300; Keşiş D. Yedigöller, 3010 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, *Kandemir* 6308, End.
- Alyssum paphlagonicum* (Hauskn.) Dudley  
Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, gravelly slopes, *Kandemir* 3550, End., Ir.-Tur.
- Alyssum pateri* Nyár subsp. *prostratum* (Nyár) Dudley  
Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, gravelly slopes, *Kandemir* 3894; around Karadağ Radio Linkage Station, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, stony places, *Kandemir* 5449; Kolçekmez D. Pass, 2403 m, 39°49'40" N, 39°31'70" E, 29 vi 2003, steppe, *Kandemir* 5378, End, Ir.-Tur.
- Alyssum peltarioides* Boiss. subsp. *peltarioides*  
Erzincan: Sakaltutan, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, rocky places, *Kandemir* 5453; Sipikör Pass, 2350 m, 29 vi 2003, alpine meadow, *Kandemir* 5396; Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, flowing slopes, *Kandemir* 4161, Gümüşhane: Between Akdağ and Sipikör, 2383 m, 39°53'07" N, 39°30'11" E, 07 viii 2004, *Kandemir* 6714; Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 iv 2004, open areas, *Kandemir* 6114, End., Ir.-Tur.
- Anchonium elichrysofolium* (DC) Boiss. subsp. *cilicicum* (Siehe ex Bornm.) Coode & Cullen  
Erzincan: Sipikör Pass, 2300 m, 19 vi 2004, lime stones, *Kandemir* 6155; Keşiş D., Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, stony places, *Kandemir* 6289.
- Anchonium elichrysofolium* (DC) Boiss. subsp. *glandulosum* Coode & Cullen  
Erzincan: Keşiş D., Yaylalar village, 2400 m, 29 vi 2002 stony places, *Kandemir* 4124; Keşiş D., above Üzümlü 2600 m, 20 vii 2002, stony places, *Kandemir* 4847; Karadağ Radio Linkage Station, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003 steppe, *Kandemir* 5451, End., Ir.-Tur.
- Arabis caucasica* Willd. subsp. *caucasica*  
Erzincan: Keşiş D., above Üzümlü, 2450 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3832.
- Arabis nova* Vill.  
Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, *Kandemir* 3662
- Aubrieta canescens* (Boiss.) Bornm. subsp. *macrostyla* Hub.-Mor. & Cullen  
Erzincan: Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, rocky, *Kandemir* 3922.
- Barbarea auriculata* Hauskn. ex Bornm. var. *paludosa* Coode & Cullen  
Erzincan: Pöske D., 2226 m, 39°53'04" N, 39°22'44" E, 17 vi 2004, damp meadow, *Kandemir* 6108; Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, damp meadow, *Kandemir* 6179, End.
- \**Barbarea minor* Koch subsp. *robusta* Coode & Cullen  
Erzincan: Pöske D., 2100 m, 39°53'48" N, 39°22'26" E, 15 v 2004, roadside, watery places, *Kandemir* 5977; Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, watery places, *Kandemir* 6182, End.
- Barbarea plantaginea* DC.  
Erzincan: Sipikör D., 2000 m, 29 vi 2003, streamside, *Kandemir* 5386; Tekçam, 2250 m, 39°43'40" N, 39°47'27" E, 08 vi 2003, damp places, *Kandemir* 5190.
- Barbarea integrifolia* DC.  
Erzincan: Sakaltutan, above Koçyatağı village, 2646 m, 24 vi 2006, around small lake, *Kandemir* 7787, End.
- Brassica elongata* Ehrh.  
Erzincan: Kolçekmez D., roadside, 08 vii 2004, *Kandemir* 6376.
- Bunias orientalis* L.  
Erzincan: Keşiş D., Turna River, barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6223.
- Camelina laxa* Meyer  
Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3873.
- Cardamine uliginosa* Bieb.  
Erzincan: Keşiş D., Tekçam, 2700 m, 06 vii 2002, streamside, *Kandemir* 4227.
- Clypeola jonthlaspi* L.  
Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3623; Dağınık D., Çakırman village, 1200 m, 02 vi 2002, open areas, *Kandemir* 3741.
- Cochlearia aucheri* Boiss.  
Erzincan: Karadağ Radio Linkage Station, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, stony places, *Kandemir* 5443; Keşiş D. Yedigöller, 2800 m, 17 vii 2002, damp places, *Kandemir* 4936, Gümüşhane: Sipikör D. around Güllüce village, 2327 m, 39°54'37" N, 39°40'44" E, 01 viii 2004, dried river bed, *Kandemir* 6672; between Sipikör D. and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, forest side, *Kandemir* 6407, End., Ir.-Tur.
- \**Cochlearia sempervivum* Boiss. & Bal.  
Erzincan: Keşiş D., Aksu River, 2728 m, 39°49'15" N, 39°42'40" E, 19 ix 2004, serpentine, *Kandemir* 6854; Sakaltutan, 2397 m, 39°53'38" N, 39°08'30" E, 6 viii 2004, steppe, *Kandemir* 6707, Gümüşhane: Akdağ, 2300 m, 19 viii 2003, colluvial soil, *Kandemir* 5821, End.

- Cochlearia sintenisii* Hausskn. ex Bornm.  
Erzincan: Keşiş D. Tekçam, 2800 m, 06 vii 2003, stony slopes, *Kandemir* 4222; Keşiş D. North-east Yedigöller, 3124 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, flowing slopes, *Kandemir* 6315, End.
- Coluteocarpus vesicaria* (L.) Holmboe subsp. *vesicaria*  
Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3632; Keşiş D. Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, stony slopes, *Kandemir* 6284, Ir.-Tur.
- Conringia orientalis* (L.) Andrz.  
Erzincan: Kolçekmez D., 2100 m, 09 viii 2003, roadside, *Kandemir* 5778.
- Conringia perfoliata* (Meyer) Busch  
Erzincan: Bayırbağ, 1290 m, 26 v 2002, slopes, *Kandemir* 3693.
- Conringia planisiliqua* Fisch. & Mey.  
Erzincan: Pöske D., 1950 m, 10 vii 2003, forest side, *Kandemir* 5503; Dağınık D., East of Çakırman village, 1600 m, 02 vi 2002, stony places, *Kandemir* 3773; Tekçam, 2260 m, 39°42'56" N, 39°46'26" E, 18 vi 2005, forest side, *Kandemir* 6965, Ir.-Tur.
- Crambe orientalis* L. var. *orientalis*  
Erzincan: Keşiş D., above Üzümlü, 1900 m, 20 vii 2002, roadside, *Kandemir* 4870, Gümüşhane: Pöske D., 2233 m, 39°53'97" N, 39°22'51" E 26 vii 2003, field side, *Kandemir* 5699, Ir.-Tur.
- Draba bruniifolia* Stev. subsp. *bruniifolia*  
Erzincan: Keşiş D., above Üzümlü, 2200 m, 16 vi 2002, watery places, *Kandemir* 3993; Pöske D. around Ahmetli village, 2057 m, 39°53'94" N, 39°23'37" E, 01 v 2004, above rocks, *Kandemir* 5914; Keşiş D., Yedigöller, 3124 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, rocky, *Kandemir* 6314, Gümüşhane: Sipikör D., 2510 m, 19 v 2002, stony places, *Kandemir* 3598.
- \**Draba cappadocica* Boiss. & Bal.  
Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3636, End., Ir.-Tur.
- Draba polytricha* Ledeb.  
Erzincan: Keşiş D., above Üzümlü, 2500 m, 08 vi 2002, rocky places, *Kandemir* 3799; Keşiş D., above Üzümlü, 2365 m, 25 v 2002, rocky, *Kandemir* 3637.
- Drabopsis verna* Koch  
Erzincan: Keşiş D., above Ekşisu, 1300 m, 05 v 2002, roadside, *Kandemir* 3516, Ir.-Tur.
- Erophila verna* (L.) Chevall subsp. *verna*  
Erzincan: Keşiş D., above Üzümlü, 2240 m, 05 v 2002 watery places, *Kandemir* 3527.
- Erysimum crassipes* Fisch. & Mey.  
Erzincan: Dağınık D., above Çakırman village, 1500 m, 10 vi 2002, flowing slopes, *Kandemir* 3918; Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3893.
- Erysimum cuspidatum* (Bieb.) DC.  
Erzincan: Pöske D., 2031 m, 39°52'55" N, 39°20'95" E, 17 vi 2004, pasture-land, *Kandemir* 6149; Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3878, Gümüşhane: Sipikör D., Devekorusu, 2386 m, 39°51'48" N, 39°37'33" E, pastures, *Kandemir* 5365; ibid. 2100 m, 17 vii 2003, in valley, pasture-land, *Kandemir* 5574.
- \**Erysimum kotschymanum* Gay  
Erzincan: Keşiş D., above Üzümlü, 3038 m, 39°45'86" N, 39°42'61" E, 28 viii 2004, serpentine, *Kandemir* 6820, End.
- \**Erysimum leptophyllum* (Bieb.) Andrz.  
Erzincan: Keşiş D., Tekçam, 2250 m, 39°44'02" N, 39°47'82" E, 08 vi 2003, damp places, *Kandemir* 5213.
- \**Erysimum repandum* L.  
Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, gravelly slopes, *Kandemir* 3556.
- Erysimum thyrsoideum* Boiss. subsp. *thyrsoideum*  
Erzincan: Keşiş D., Yedigöller, 2400 m, 29 vi 2002, flowing slopes, *Kandemir* 4123, End.
- Erysimum thyrsoideum* Boiss. subsp. *ponticum* (Hausskn. & Bornm.) Cullen  
Erzincan: Keşiş D., Tekçam, 2240 m, 39°44'63" N, 39°47'73" E, 07 vi 2003, damp places, *Kandemir* 5168; Sipikör Pass, 2350 m, 17 vii 2003, colluvial soil, *Kandemir* 5567, End.
- Erysimum uncinatifolium* Boiss.  
Erzincan: Akdağ, 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, gravelly stony places, *Kandemir* 5755, End.
- Fibigia clypeata* (L.) Medik.  
Erzincan: Keşiş D., above Üzümlü, 2000 m, 10 vi 2001 *Kandemir* 3173.
- Fibigia eriocarpa* (DC.) Boiss.  
Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, stony slopes *Kandemir* 3671, Gümüşhane: Pöske D., around Karayolları Station 1950 m, 10 vii 2003, forest side, *Kandemir* 5500.
- Fibigia suffruticosa* (Vent.) Sweet  
Erzincan: Kolçekmez D., 1700 m, 06 vii 2002, roadside, slopes, *Kandemir* 4348.
- Heldreichia rotundifolia* Boiss.  
Erzincan: Sakaltutan, 2700 m, 39°54'50" N, 39°08'17" E, 05 vii 2003, steppe, *Kandemir* 5428; around Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, gravelly places, *Kandemir* 6677; Ahi D., 2909 m, 39°50'67" N, 39°35'10" E, 23 vii 2004, flowing rocky, *Kandemir* 6559; Keşiş D. Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, flowing slopes, *Kandemir* 6299, End., Ir.-Tur.
- Hesperis bicuspidata* (Willd.) Poirlet  
Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, shady places, *Kandemir* 3838.
- Hesperis breviscapa* Boiss.  
Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, rocky, *Kandemir* 3639; above Yaylalar village, 2400 m, 29 vi 2002, flowing slopes, *Kandemir* 4127; Ahi D., 2590 m, 39°50'28" N, 39°34'45" E, 23 vii 2004, flowing slopes, *Kandemir* 6562; Keşiş D., Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, flowing slopes, *Kandemir* 6296, End.
- Hesperis cappadocica* Fourn.  
Erzincan: Kolçekmez D., 1990 m, 39°48'46" N, 39°31'23" E, 29 vi 2003, steppe, *Kandemir* 5401, Gümüşhane: Sipikör D., around Karacaören village, 1778 m, 39°57'33" N, 39°32'64" E, 02 vi 2004, slopes, *Kandemir* 6034, End.
- Hesperis pendula* DC.  
Erzincan: Above Pı'kida'ı village, 2348 m, 24 v 2003, gravelly slopes, *Kandemir* 5119.
- Hesperis schischkini* Tzvelev  
Erzincan: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, *Kandemir*



5239; Keşiş D., around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, slopes, *Kandemir* 6192, Gümüşhane: Around Ahmetli village, 2057 m, 39°53'94" N, 39°23'37" E, 02 vi 2004, flowing soils, *Kandemir* 6030, End.

*Iberis taurica* DC.

Erzincan: Kolçekmez D., Pass, 2400 m, 39°49'40" N, 39°31'70" E, 29 vi 2003, steppe, *Kandemir* 5377; Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3905; Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6342.

*Isatis candolleana* Boiss.

Erzincan: Dağınık D., above Çakırman village, 1500 m, 10 vi 2002, flowing slopes *Kandemir* 3917; Kolçekmez D., 1990 m, 39°48'46" N, 39°31'23" E, 29 vi 2003 steppe, *Kandemir* 5402, End., Ir.-Tur.

*Isatis cappadocica* Desv. subsp. *cappadocica*

Erzincan: Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, flowing slopes, *Kandemir* 6683; Sipikör Pass, 2350 m, 17 vii 2003, flowing slopes, *Kandemir* 5568; Keşiş D., Tekçam, 2250 m, 06 vii 2002, *Kandemir* 4249; Keşiş D., above Üzümlü, 2150 m, 15 vi 2002, rocky, *Kandemir* 3954.

*Isatis cappadocica* Desv. subsp. *alyssifolia* (Boiss.) Davis

Erzincan: Keşiş D., above Yaylalar village, 1400 m, 29 vi 2002, meadows, *Kandemir* 4179; Pöske D., 2066 m, 39°53'55" N, 39°22'77" E, 27 vi 2004, *Quercus* areas, *Kandemir* 6271, End., Ir.-Tur.

*Isatis glauca* Aucher ex Boiss. subsp. *glauca*

Erzincan: Kolçekmez D., 2000 m, 13 vii 2003, slopes, *Kandemir* 5609; Keşiş D., above Üzümlü, 1800 m, 20 vii 2002 roadside slopes, *Kandemir* 4860; Keşiş D. around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6509.

*Isatis undulata* Aucher ex Boiss.

Erzincan: Sipikör D., around Karacaören village, 1778 m, 39°57'33" N, 39°32'64" E, 02 vi 2004, slopes, *Kandemir* 6033, End., Ir.-Tur.

\**Malcolmia africana* L.

Erzincan: Dağınık D., East of Çakırman village, 1450 m, 26 vi 2002, in valley, roadside, *Kandemir* 4022.

*Ricotia aucheri* (Boiss.) Burt

Erzincan: Sakaltutan, 2700 m, 39°54'50" N, 39°08'17" E, 05 vii 2003, flowing slopes, *Kandemir* 5430; Keşiş D., Tekçam, 2240 m, 39°44'62" N, 39°47'70" E, 07 vi 2003, damp places, *Kandemir* 5165; Keşiş D. Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, flowing slopes, *Kandemir* 6298, Ir.-Tur.

*Sisymbrium altissimum* L.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3749; Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, shady places, *Kandemir* 3816.

\**Sterigmostemum incanum* Bieb.

Erzincan: Dağınık D., around Çakırman village, 1463 m, 39°45'13" N, 39°36'95" E, 15 v 2004, sloping side, *Kandemir* 5965.

*Tchihatchewia isatidea* Boiss.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3766; Sipikör D., 1300 m, 28 v 2004, slopes, *Kandemir* 6009, End., Ir.-Tur.

*Thlaspi arvense* L.

Gümüşhane: Sipikör D., Karacaören village, 1700 m, 39°54'67" N, 39°37'66" E, 23 v 2004, alpine meadow, *Kandemir* 6008.

\**Thlaspi huetii* Boiss.

Erzincan: Keşiş D., Tekçam, 2400 m, 39°44'32" N, 39°47'35" E, 07 vi 2003, damp places, *Kandemir* 5188.

*Thlaspi lilacinum* Boiss. & Huet.

Erzincan: Sipikör D., 2086 m, 39°54'75" N, 39°37'66" E, 02 vi 2004, subalpine meadow, *Kandemir* 6019, Gümüşhane: Akdağ, 2100 m, 39°52'84" N, 39°27'33" E, 23 v 2004, alpine meadow, *Kandemir* 5992, End.

*Thlaspi oxyceras* (Boiss.) Hedge

Erzincan: Between Erzincan and Kelkit, 20 km, 1802 m, 39°50'99" N, 39°22'33" E, 15 v 2004, field land, *Kandemir* 5972; Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5262.

\**Thlaspi violascens* Boiss.

Erzincan: Dağınık D., 2000 m, 05 v 2002, pasture-land, *Kandemir* 3514; Pöske D., around of Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, watery places, *Kandemir* 6142; Keşiş D., around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, slopes, *Kandemir* 6192, End.

#### CAMPANULACEAE

*Asyneuma lobelioides* (Willd.) Hand.-Mazz.

Erzincan: Keşiş D., Üzümlü, around Çardaklı village, 1300 m, 24 v 2003, flowing slopes, *Kandemir* 5122; Keşiş D. Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6252, Gümüşhane: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6365, Ir.-Tur.

*Asyneuma virgatum* (Labill.) Bornm. subsp. *virgatum*

Erzincan: Kolçekmez D., Handere Road, 1993 m, 39°48'46" N, 39°31'23" E, 30 vi 2003, slopes, *Kandemir* 5410.

*Campanula conferta* A.DC.

Erzincan: Keşiş D., Tekçam, 2400 m, pasture-land, 06 vii 2002, *Kandemir* 4181, Ir.-Tur.

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

Erzincan: Dağınık D., Kızlar Castle, 2200 m, 22 vi 2003, pasture-land, *Kandemir* 5334; Keşiş D., Yedigöller, 2000 m, 27 vii 2002, *Kandemir* 4945, Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, slopes, *Kandemir* 5760, Euro.-Sib.

*Campanula hedgei* Davis

Erzincan: Keşiş D. above Üzümlü, Çamlık, 2440 m, 39°45'54" N, 39°44'38" E, 15 vii 2004, under rocks, *Kandemir* 6449, End., Ir.-Tur.

*Campanula latifolia* L.

Erzincan: Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, in forest, *Kandemir* 5695, Euro.-Sib.

*Campanula ptarmicifolia* Lam. var. *ptarmicifolia*

Erzincan: Keşiş D., Tekçam 2300 m, 06 vii 2002, rocky, *Kandemir* 4695; Keşiş D.

Yedigöller, 2176 m, 39°50'56" N, 39°47'63" E, 03 vii 2004, serpentine, *Kandemir* 6328; Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, serpentine, *Kandemir* 6689, Gümüşhane: Sipikör Pass, 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6351, End.

*Campanula saxonorum* Gandoger

Erzincan: From Erzincan to Kelkit, Yalnızbağ, 1445 m, 39°48'33" N, 39°24'73" E, 14 vi 2003, slopes, *Kandemir* 5217, End., Ir.-Tur.

*Campanula stevenii* Bieb. subsp. *stevenii*

Erzincan: Keşiş D., above Üzümlü, 2800 m, 20 vii 2002, pasture-land, *Kandemir* 4798, Hyrc. Eux.

*Campanula stricta* L. var. *stricta*

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, rocky, *Kandemir* 4696; Keşiş D., above Üzümlü, 1800 m, 23 viii 2002, rocky, *Kandemir* 5075, Ir.-Tur.

*Campanula tridentata* Schreber

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, stony places, *Kandemir* 4112, Gümüşhane: Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, stony places, *Kandemir* 6182, Eux.

CAPRIFOLIACEAE

*Lonicera caucasica* Pallas subsp. *orientalis* (Lam.) Chamb. & Long

Erzincan: Pöske D., 2140 m, 39°53'31" N, 39°22'52" E, 10 vii 2003, watery places, *Kandemir* 5493; Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5031, Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6579, End.

*Sambucus nigra* L.

Erzincan: Pöske D., around Ahmetli village, 26 vii 2003 *Kandemir* 5704, Euro.-Sib.

*Viburnum lantana* L.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5033, Gümüşhane: Sipikör D., around Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, flowing slopes, *Kandemir* 6629; Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6578, Euro.-Sib.

CARYOPHYLLACEAE

*Acanthophyllum verticillatum* (Willd.) Hand.-Mazz.

Erzincan: Keşiş D., above Üzümlü, 1450 m, 23 viii 2002, steppe, *Kandemir* 5094; Dağınık D., Günebakan village, 1400 m, 10 viii 2002, steppe, *Kandemir* 4994, Ir.-Tur.

*Arenaria acutisepala* Hausskn. ex Williams

Erzincan: Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside, *Kandemir* 6668; Keşiş D., above Üzümlü, 1600 m, 23 viii 2002, *Kandemir* 5093, Gümüşhane: Sipikör D., South-east of Güllüce, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, steppe, *Kandemir* 6620, End.

*Arenaria armeniaca* Boiss.

Erzincan: Around Yalnızbağ village, in valley, 1500 m, 26 vii 2003, steppe, *Kandemir* 5725, End.

*Arenaria cucubaloides* Smith

Erzincan: Above Karakaya village, 2000 m, 06 vii 2002, roadside, *Kandemir* 4738, Ir.-Tur.

*Arenaria gypsophiloides* L. var. *gypsophiloides*

Erzincan: Keşiş D., Turna River, barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6230.

*Arenaria gypsophiloides* L. var. *glabra* Fenzl

Gümüşhane: Sipikör Pass, 2496 m, 39°53'04" N, 39°32'57" E, 08 vii 2004, pasture-land, *Kandemir* 6356, Ir.-Tur.

*Arenaria pseudoacantholimon* Bornm.

Erzincan: Keşiş D., Tekçam, 2410 m, 06 vii 2002, stony slopes, *Kandemir* 4208; Dağınık D., Kızlar Castle, 2867 m, 39°47'92" N, 39°28'19" E, 27 viii 2002, rocky slopes, *Kandemir* 5842, End., Ir.-Tur.

*Arenaria serpyllifolia* L.

Erzincan: Keşiş D., Tekçam, 2250 m, 06 vii 2002, pasture-land, *Kandemir* 4681.

*Dianthus anatolicus* Boiss.

Erzincan: Keşiş D., above Ekşisu, 1600 m, 10 viii 2002, steppe, *Kandemir* 5008, End.

*Dianthus balansae* Boiss.

Erzincan: Keşiş D., above Üzümlü, 3038 m, 39°45'86" N, 39°42'63" E, 28 viii 2004, serpentine, *Kandemir* 6819, End.

*Dianthus calocephalus* Boiss.

Erzincan: Above Bayırbağ, 2000 m, 06 vii 2002, slopes, *Kandemir* 4727; Pöske D., 1950 m, 10 vii 2003, open forest, *Kandemir* 5502.

*Dianthus carmelitarum* Reut. ex Boiss.

Erzincan: Keşiş D., above Üzümlü 1751 m, 39°43'67" N, 39°41'67" E, 28 vii 2005, steppe, *Kandemir* 6609; Sipikör D., 2327 m, 39°54'37" N, 39°40'44" E, 01 viii 2004, pasture-land, *Kandemir* 6650, End., Eux.

*Dianthus crinitus* Sm. var. *crinitus*

Erzincan: From Yalnızbağ to Kelkit, 4 km, in valley, 1500 m, 26 vii 2005, streamside, *Kandemir* 5716.

*Dianthus crinitus* Sm. var. *crossopetalus* Boiss.

Erzincan: Ağılözü arable field, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, dried river bed, *Kandemir* 5458; Keşiş D. below around Çakırman village, 22 vi 2003, sandy places, *Kandemir* 5273.

\**Dianthus erythrocoleus* Boiss.

Erzincan: Keşiş D., above Üzümlü, 3038 m, 39°45'86" N, 39°42'63" E, 28 viii 2004, serpentine, *Kandemir* 6818, End., Ir.-Tur.

*Dianthus masmenaeus* Boiss. var. *glabrescens* Boiss.

Erzincan: Pöske D., 3 km east of Ahmetli village, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, dried river bed, *Kandemir* 5471, Ir.-Tur.

*Dianthus orientalis* Adams

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir*, 4684; Dağınık D., around Çakırman village, 1500 m, 26 vi 2002, sloping side, *Kandemir* 4031.

\**Dianthus tabrisianus* Bien. ex Boiss.

Gümüşhane: North-west of Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, steppe, *Kandemir* 5749, Ir.-Tur.

*Dianthus zederbaueri* Vierh.

Erzincan: Keşiş D., above Üzümlü, 2450 m, 20 vii 2002, roadside, slopes, *Kandemir* 4843; Sipikör D., 2400 m, 13 vii 2003, stony places, *Kandemir* 5559; Keşiş D. around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6505, End., Ir.-Tur.

*\*Dianthus zonatus* Fenzl var. *zonatus*

Erzincan: Keşiş D., Tekçam, 2432 m, 39°45'05" N, 39°48'05" E, 20 vii 3003, steppe, *Kandemir* 5618; Keşiş D., above Üzümlü, 3038 m, 39°45'86" N, 39°42'63" E, 28 viii 2004, serpentine, *Kandemir* 6816; Ahi D., 2590 m, 39°50'28" N, 39°34'45" E, 23 vii 2004, gravelly places, *Kandemir* 6566.

*\*Gypsophilla adenophylla* Bark.

Erzincan: Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, stony places, *Kandemir* 6843, End., Ir.-Tur.

*Gypsophilla elegans* Bieb.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, roadside colluvial soil, *Kandemir* 4188; Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3758, Ir.-Tur.

*Gypsophilla sphaerocephala* Fenzl ex Tchihat. var. *cappadocica* Boiss.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 27 viii 2002, slopes, *Kandemir* 4989; Çayırılı, Başköy, 2029 m, 39°52'55" N, 39°46'01" E, 07 viii 2004, steppe, *Kandemir* 6738, Gümüşhane: South-east of Sipikör Pass, 2400 m, 13 vii 2003, stony slopes, *Kandemir* 5591, End., Ir.-Tur.

*\*Gypsophilla tubulosa* (Jaub. & Spach) Boiss.

Erzincan: Above Karakaya village, 1619 m, 39°41'29" N, 39°45'11" E, 20 vii 2006, roadside, colluvial soil, *Kandemir* 5668, End., E. Medit.

*\*Holosteum umbellatum* L.

Erzincan: Keşiş D., above Ekşisu, 1205 m, 12 v 2002, roadside, *Kandemir* 3575; Dağınık D., around Çakırman village, 1700 m, 02 vi 2002, rocky, *Kandemir* 3739.

*Minuartia hamata* (Hauskn.) Mattf.

Erzincan: Keşiş D., Tekçam, 2250 m, 06 vii 2002, pasture-land, *Kandemir* 4680.

*Minuartia juniperina* (L.) Maire & Petitm.

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3820; North-west of Sipikör Pass, 2370 m, 39°53'24" N, 39°30'17" E, destroyed places, *Kandemir* 5756.

*Minuartia rimarum* (Boiss. & Bal.) Mattf. subsp. *rimarum*

Erzincan: Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, serpentine, *Kandemir* 6830, End., Ir.-Tur.

*Petrohragia alpina* (Habl.) Ball & Heywood subsp. *alpina*

Erzincan: Above Karakaya village, 1800 m, 08 v 2003, rocky slopes, *Kandemir* 5193; West of Sipikör Pass, 2400 m, 13 vii 2003, pasture-land, *Kandemir* 5537; Keşiş D., Tekçam, 2300 m, 06 vii 2002, pasture-land, *Kandemir* 4722.

*\*Sagina saginoides* (L.) Karst.

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, slopes, *Kandemir* 5297.

*\*Saponaria glutinosa* Bieb.

Erzincan: Pöske D., 2050 m, 26 vii 2003, forest side, *Kandemir* 5700.

*Saponaria prostrata* Willd. subsp. *anatolica* Hedge

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, *Kandemir* 3665; Sakaltutan, 2765 m, 39°53'94" N, 39°08'34" E, 05 vii 2003, streamside, damp meadow, *Kandemir* 5415, End.

*Silene armena* Boiss. var. *armena*

Erzincan: Keşiş D., around Yaylalar village, 2200 m, 29 vi 2002, steppe, *Kandemir* 4089; Keşiş D., above Ekşisu, in valley, 2200 m, 10 viii 2002, *Kandemir* 5021.

*Silene azirensis* Coode & Cullen

Erzincan: Keşiş D., above Üzümlü, 3040 m, 39°45'78" N, 39°42'85" E, 28 viii 2004, flowing soil, *Kandemir* 6823; Keşiş D., 2038 m, 39°48'03" N, 39°84'49" E, 17 vii 2004, flowing slopes, *Kandemir* 6497, End., Ir.-Tur.

*Silene brevicaulis* Boiss.

Erzincan: Keşiş D., Yedigöller, 2410 m, 29 vi 2002, flowing slopes, *Kandemir* 4095, End.

*Silene capitellata* Boiss.

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 02 vi 2004, pasture-land, *Kandemir* 6027, End.

*Silene cappadocica* Boiss. & Heldr.

Erzincan: above Ekşisu, 1490 m, 12 v 2002, gravelly places, *Kandemir* 3564, Ir.-Tur.

*Silene caryophylloides* (Poir.) Otth subsp. *subulata* (Boss.) Coode

Erzincan: Sakaltutan, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, serpentine, *Kandemir* 5447.

*Silene caryophylloides* (Poir.) Otth subsp. *stentoria* (Fenzl) Coode & Cullen

Erzincan: Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6339, End., Ir.-Tur.

*Silene chlorifolia* Sm.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3776, Ir.-Tur.

*Silene compacta* Fischer

Erzincan: Keşiş D., around Yaylalar village, 1450 m, 29 vi 2002, streamside, *Kandemir* 4171.

*\*Silene conica* L.

Erzincan: Bayırbağ, 1250 m, 26 v 2002, slopes, *Kandemir* 3682.

*Silene dianthoides* Pers

Erzincan: Ahi D., 2909 m, 39°50'67" N, 39°35'10" E, 23 vii 2004, limestone, *Kandemir* 6552; Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, stony places, *Kandemir* 6334, Gümüşhane: North of Sipikör D., around Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, pastures, *Kandemir* 6169, Ir.-Tur.

*\*Silene erysimifolia* Stapf

Erzincan: Kolçekmez D., 1450 m, 13 vii 2003, steppe, *Kandemir* 5615.

*Silene italica* (L.) Pers.

Gümüşhane: Pöske D., 1950 m, 10 vii 2003, forest side, *Kandemir* 5506.

*Silene lasiantha* Koch

Erzincan: Keşiş D., Yedigöller, 27 vii 2002, pasture-land, *Kandemir* 4891.

*\*Silene lucida* Chowdh. subsp. *lucida*

Erzincan: Keşiş D. above Üzümlü, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, slopes, *Kandemir* 6474, End., Ir.-Tur.

*Silene montbretiana* Boiss.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3771, Ir.-Tur.

*Silene multifida* (Adams) Rohrb.

Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, shady places, *Kandemir* 6721.

*Silene muradica* Schischk.

Erzincan: Between Erzincan and Sakaltutan, Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, gravelly slopes, *Kandemir* 5459, End., Ir.-Tur.

*Silene odontopetala* Fenzl

Erzincan: Keşiş D. above Üzümlü, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, rocky, *Kandemir* 6472; Dağınık D., Kızlar Castle, 2300 m, 22 vi 2003, rocky, *Kandemir* 5332.

\**Silene otites* (L.) Wib.

Erzincan: Sipikör D., 2250 m, 29 vi 2003, steppe, *Kandemir* 5349; Keşiş D., Kızlar Castle, 1900 m, 22 vi 2003, rocky, *Kandemir* 5339, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6589.

*Silene pungens* Boiss.

Erzincan: Keşiş D., above Üzümlü, 3038 m, 39°45'86" N, 39°42'63" E, 28 viii 2004, serpentine, *Kandemir* 6822; above Karakaya village, 2260 m, 39°42'56" N, 39°46'26" E, 18 vi 2005, forest side, *Kandemir* 6994; Sipikör D., 2400 m, 13 vii 2003, rocky, *Kandemir* 5553, Ir.-Tur.

\**Silene ruscifolia* (Hub.-Mor. & Reese) Hub.-Mor.

Erzincan: Kolçekmez D., Pass, 2403 m, 39°49'40" N, 39°31'70" E, 29 vi 2003, open areas, *Kandemir* 5384, End., Ir.-Tur.

*Silene saxatilis* Sims.

Erzincan: Dağınık D., above Kızlar Castle, 2300 m, 22 vi 2003, rocky, *Kandemir* 5331.

*Silene spergulifolia* (Desf.) Bieb.

Erzincan: Above Karakaya village, 1800 m, 24 v 2003, rocky slopes, *Kandemir* 5192; Sipikör Pass, 2350 m, 17 vii 2003, roadside, flowing slopes, *Kandemir* 5566, Ir.-Tur.

*Silene supina* Bieb. subsp. *pruinosa* (Boiss.) Chowdh.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, stony places, *Kandemir* 3883.

\**Silene swertiifolia* Boiss.

Erzincan: Between Erzincan and Sakaltutan, Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, gravelly slopes, *Kandemir* 5454.

*Silene vulgaris* (Moench) Garcker var. *vulgaris*

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, among *Juniperus* sp., *Kandemir* 4718; Kolçekmez D., Çamlık, 2000 m, 13 vii 2003, shady places, *Kandemir* 5606.

*Stellaria holostea* L.

Erzincan: Dağınık D., around Çakırman village, 39°46'12" N, 39°34'67" E, 22 vi 2003, slopes, *Kandemir* 5282, Euro.-Sib.

\**Stellaria persica* Boiss.

Erzincan: From Erzincan to Sipikör Pass, 2200 m, 13 vii 2003, watery places, *Kandemir* 5586; Sakaltutan, 2300 m, 05 vii 2003, steppe, *Kandemir* 5431.

*Telephium imperati* L. subsp. *orientale* (Boiss.) Nyman

Erzincan: Keşiş D., above Üzümlü, 2000 m, 20 vii 2002, roadside, *Kandemir* 4859.

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

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, roadside, *Kandemir* 3900.

\**Velezia hispida* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2000 m, 20 vii 2002, flowing slopes, *Kandemir* 4815, End.

#### CHENOPODIACEAE

*Beta macrorhiza* Stev.

Erzincan Keşiş D., Tekçam, 2700 m, 39°45'52' N, 39°45'72' E, sloping side, *Kandemir* 5635, Ir.-Tur.

#### CISTACEAE

\**Fumana trisperma* Hub.-Mor. & Reese

Erzincan: Keşiş D., above Ekşisu, 1600 m, 10 viii 2002, steppe, *Kandemir* 5000, End., Ir.-Tur.

*Fumana aciphylla* Boiss.

Erzincan: Keşiş D., around Yedigöller, 2500 m, 27 vii 2002, slopes, *Kandemir* 4904, Ir.-Tur.

\**Helianthemum canum* (L.) Baumg.

Erzincan: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, stony places, *Kandemir* 6353; Sipikör Pass, 13 vii 2003, 2250 m, pastures, *Kandemir* 5589.

*Helianthemum nummularium* (L.) Miller subsp. *nummularium*

Erzincan: Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5257; Sakaltutan, 2300 m, 05 vii 2003, steppe, *Kandemir* 5437; Keşiş D., above Yaylalar village, 2300 m, 29 vi 2002, steppe, *Kandemir* 4068.

*Helianthemum nummularium* (L.) Miller subsp. *tomentosum* (Scop.) Spreng.

Gümüşhane: Sipikör Pass, 2200 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, meadow, *Kandemir* 6532.

#### CONVOLVULACEAE

*Convolvulus calvertii* Boiss.

Erzincan: Keşiş D., above Yaylalar village, 29 vi 2002, serpentine, *Kandemir* 4057; Keşiş D. Yedigöller, 2686 m, 39°49'00" N, 39°45'90" E, 03 vii 2004, serpentine, *Kandemir* 6332, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, destructive places, *Kandemir* 6130, Ir.-Tur.

*Convolvulus lineatus* L.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, roadside, *Kandemir* 3856

#### CUSCUTACEAE

\**Cuscuta epithymum* (L.) L. var. *epithymum*

Gümüşhane: Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, under forest, *Kandemir* 5688.

#### CRASSULACEAE

*Sedum album* L.

Erzincan: Dağınık D., around Kızlar Castle, 1630 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6509; Keşiş D., Tekçam, 2300 m, 06 vii 2002, rocky, *Kandemir*, Erzincan: Ağılözü, 1654 m, 05 vii 2003, stony places, *Kandemir* 5467.

*Sedum nanum* Boiss.

Erzincan: Keşiş D., Tekçam 3269 m, 20 vii 2003, stony places, *Kandemir* 5644 Ir.-Tur.

*Sedum pilosum* Bieb.

Erzincan: Keşiş D., above Üzümlü, 2323 m, 39°45'31" N, 39°43'39" E, 15 vii 2004, limestone, *Kandemir* 6440, Hirc.-Eux.

\**Sedum telephium* L. subsp. *maximum* (L.) Krockner

Erzincan: Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, stony places, *Kandemir* 5037, Gümüşhane: Sipikör D. Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, stony places, *Kandemir* 6802, Euro.-Sib.

*Sedum tenellum* Bieb.

Erzincan: Around Karadağ Radio Linkage Station, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, stony places, *Kandemir* 5438; Keşiş D., 2800 m, 20 vii 2002, stony places, *Kandemir* 4792.

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

Gümüşhane: Between Sipikör and Akdağ, 2370 m, 09 viii 2003, steppe, *Kandemir* 5758, End.

\**Sempervivum davisii* Muirhead

Erzincan: Sakaltutan, 2300 m, 05 vii 2003, rocky, *Kandemir* 5435.

## CUSCUTACEAE

*Cuscuta epithymum* (L.) L. var. *epithymum*

Gümüşhane: Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, under forest, *Kandemir* 5688.

## DIPSACACEAE

*Cephalaria procera* Fisch. & Lall

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, streamside, *Kandemir* 6241, Gümüşhane: Sipikör Pass, 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, watery places, *Kandemir* 5747, Ir.-Tur.

*Cephalaria speciosa* Boiss. & Kotschy

Erzincan: Yalnızbağ, 26 vii 2003, streamside, *Kandemir* 5714; Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, flowing slopes, *Kandemir* 4829, End., Ir.-Tur.

*Dipsacus laciniatus* L.

Erzincan: Keşiş D., above Üzümlü, 1450 m, 23 viii 2002, streamside, *Kandemir* 5056.

*Scabiosa argentea* L.

Erzincan: Keşiş D., above Ekşisu, 2000 m, 10 viii 2002, steppe, *Kandemir* 5004; Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, roadside, *Kandemir* 4863.

*Scabiosa calocephala* Boiss.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3753, Ir.-Tur.

*Scabiosa crinita* Kotschy & Boiss.

Erzincan: Üzümlü, Karakaya, 2000 m, 06 vii 2002, slopes, *Kandemir* 4731, Ir.-Tur.

*Scabiosa sulphurea* Boiss. & Huet

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, roadside, *Kandemir* 5017, End.

*Tremastelma palistinum* (L.) Janchen

Erzincan: Üzümlü, Bayırbağ, 1290 m, 10 vi 2001, slopes, *Kandemir* 3269, Medit.

## ELAEAGNACEAE

*Hippophae rhamnoides* L.

Erzincan: Keşiş D., above Üzümlü, 1900 m, 23 viii 2002, in valley

## EUPHORBIACEAE

*Euphorbia herniarifolia* Willd. var. *herniarifolia*

Erzincan: Ahi D., 2909 m, 39°50'67" N, 39°35'10" E, 23 vii 2004, rocky places, *Kandemir* 6557; Keşiş D., Yedigöller, 2595 m, 39°49'29" N, 39°46'51" E, 15 viii 2004, rocky, *Kandemir* 6795.

*Euphorbia herniariifolia* Willd. var. *glaberrima* Hal.

Erzincan: Keşiş D., Yedigöller, 3124 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, under rocks, *Kandemir* 6309.

\**Euphorbia petrophila* C.A.Meyer var. *petrophila*

Erzincan: Keşiş D., 2038 m, 39°48'03" N, 39°84'49" E, 17 vii 2004, serpentine, *Kandemir* 6487, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, destructive places, *Kandemir* 6131, Euro.-Sib.

*Euphorbia platyphyllos* L.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1400 m, 06 vii 2002, slopes, *Kandemir* 4758; Keşiş D., above Üzümlü, 1700 m, 23 viii 2002, steppe, *Kandemir* 5080.

*Euphorbia seguieriana* Necker subsp. *seguieriana*

Erzincan: Keşiş D., above Üzümlü, 1700 m, 23 viii 2002, roadside, *Kandemir* 5090

*Euphorbia virgata* Waldst. & Kit. ex Willd.

Erzincan: Keşiş D., Yedigöller, 2400 m, 27 vii 2002, slopes, streamside, *Kandemir* 5600.

## FABACEAE

*Anthyllis vulneraria* L. subsp. *boissieri* (Sag.) Bornm.

Erzincan: Keşiş D., Yedigöller, 2400 m, 17 vii 2002, slopes, *Kandemir* 4901.

*Anthyllis vulneraria* L. subsp. *pulchella* (Vis.) Bornm.

Erzincan: Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, serpentine, *Kandemir* 6829.

*Astragalus aduncus* Willd.

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, *Kandemir* 3666, Gümüşhane: Sipikör D., South-east of Güllüce village, 2327 m, 39°54'37" N, 39°40'44" E, 01 viii 2004, dried river bed, *Kandemir* 6672, Ir.-Tur.

\**Astragalus alyssoides* Lam.

Erzincan: Ahi D., 2484 m, 39°50'66" N, 39°33'99" E, 23 vii 2004, limestone places, *Kandemir* 6549, Gümüşhane: Sipikör Pass, 2400 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, rocky, *Kandemir* 6531, Ir.-Tur.

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

Erzincan: Yalnızbağ, 1445 m, 39°48'33" N, 39°24'73" E, 14 vi 2003, slopes, *Kandemir* 5221, Gümüşhane: Sipikör Pass, 2350 m, 29 vi 2003, watery places, *Kandemir* 5398.

*Astragalus ascicalyx* Bunge

Erzincan: Keşiş D., North-west of Tekçam, 2600 m, 06 vii 2002, slopes, *Kandemir* 4212, Erzincan: Bayırbağ, 1600 m, 18 vi 2005, slopes, *Kandemir* 6968, Ir.-Tur.

*Astragalus aucheri* Boiss.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, open areas, *Kandemir* 3748, Ir.-Tur.

\**Astragalus bicolor* Lam.

Erzincan: Sipikör Pass, 2350 m, 29 vi 2003, slopes, *Kandemir* 5391, Ir.-Tur.

*Astragalus campylosema* Boiss. subsp. *campylosema*

Erzincan: Çardaklı village, 1300 m, 24 vi 2002, flowing slopes, *Kandemir* 5135, Ir.-Tur.

\**Astragalus campylosema* Boiss. subsp. *nigripilis* Hub.-Mor. & Chamb.

Erzincan: Around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, pasture-land, *Kandemir* 6197, End., Ir.-Tur.

*Astragalus cancellatus* Bunge

Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, roadside, *Kandemir* 3559, Ir.-Tur.

*Astragalus crinitus* Boiss.

Erzincan: Pöske D., around Ahmetli village, 2000 m, 10 vii 2003, watery places, *Kandemir* 5488, Gümüşhane: Sipikör D., 1300 m, 28 v 2004, slopes, *Kandemir* 6010, End., Ir.-Tur.

*Astragalus declinatus* Willd.

Erzincan: Keşiş D., Tekçam, 2700 m, 06 vii 2002, meadow, *Kandemir* 4244, Ir.-Tur.

\**Astragalus densifolius* Lam. subsp. *amasiensis* (Freyn) Aytaç & Ekim

Erzincan: Sipikör Pass, 2200 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, limestone, *Kandemir* 6528, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, meadow, *Kandemir* 6120, End.

\**Astragalus eriocephalus* Willd. subsp. *eriocephalus*

Erzincan: Above Karakaya village, 1619 m, 39°41'29" N, 39°45'11" E, 20 vii 2003, steppe, *Kandemir* 5676.

*Astragalus fraxinifolius* DC.

Erzincan: Pöske D., 2233 m, 39°53'79" N, 39°22'51" E, 26 vii 2003, forest side, *Kandemir* 5685, Ir.-Tur.

\**Astragalus galegiformis* L.

Erzincan: Sipikör Pass, 2400 m, 18 vii 2004, serpentine, *Kandemir* 6524, Euro.-Sib.

*Astragalus hirsutus* Vahl

Erzincan: Sipikör Pass, 2400 m, 13 vii 2003, stony places, *Kandemir* 5546, End.

*Astragalus hyalolepis* Bunge

Erzincan: Sipikör Pass, 2200 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, limestone, *Kandemir* 6527, Ir.-Tur.

*Astragalus lagowskii* Trautv.

Erzincan: Dağınık D., Kızlar Castle, 2000 m, 39°47'08" N, 39°35'96" E, 27 viii 2003, shady places, *Kandemir* 5829.

\**Astragalus lagurus* Willd.

Erzincan: Keşiş D., above Üzümlü, 1900 m, 20 vii 2002, steppe, *Kandemir* 4869, Ir.-Tur.

*Astragalus lineatus* Lam. var. *lineatus*

Erzincan: Keşiş D. above Üzümlü, 2581 m, 39°44'79" N, 39°42'39" E, 15 vii 2004, limestone, *Kandemir* 6460.

\**Astragalus lycius* Boiss.

Gümüşhane: Sipikör D., 2327 m 39°54'37" N, 39°40'44" E, 01 viii 2004, steppe, *Kandemir* 6643.

*Astragalus microcephalus* Willd.

Erzincan: Keşiş D., above Üzümlü, 2400 m, 20 vii 2002 slopes, *Kandemir* 4844, Ir.-Tur.

*Astragalus oleifolius* DC.

Erzincan: Dağınık D., around Kızlar Castle, 39°47'08" N, 39°35'96" E, 27 viii 2003, steppe, *Kandemir* 5829, Ir.-Tur.

\**Astragalus onobrychis* L.

Erzincan: Keşiş D. Turna River, barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6240, Gümüşhane: Sipikör D., North of Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, meadow, *Kandemir* 6168; Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, slopes, *Kandemir* 6584.

*Astragalus ornithopodioides* Lam.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, streamside, gravelly places, *Kandemir* 4009; Keşiş D., Tekçam, 2200 m, 18 vi 2005, slopes, *Kandemir* 6966; Keşiş D. above Üzümlü, 2323 m, 39°45'31" N, 39°43'39" E, 15 vii 2004, roadside, *Kandemir* 6438; Sipikör D., 2300 m, 28 v 2004, roadside, *Kandemir* 6012, Ir.-Tur.

\**Astragalus pelliger* Fenzl

Erzincan: Keşiş D., Yedigöller, 2750 m, 27 vii 2002, gravelly places, *Kandemir* 4884, End.

*Astragalus plumosus* Willd. var. *krugeanus* (Freyn & Bornm.) Chamb. & Matthews

Erzincan: Pöske D., 2350 m, 39°54'39" N, 39°21'01" E, 26 vii 2003, steppe, *Kandemir* 5677, End., Ir.-Tur.

*Astragalus ponticus* Pall.

Gümüşhane: Pöske D., 1778 m, 39°54'67" N, 39°26'61" E, 25 vii 2004, slopes, *Kandemir* 6604.

*Astragalus tigridis* Boiss.

Erzincan: Kurutilek, 1849 m, 39°48'15" N, 39°30'97" E, 10 v 2003, steppe, *Kandemir* 5106, Ir.-Tur.

*Astragalus wiedemannianus* Fischer

Erzincan: Sakaltutan, 2300 m, 05 vii 2003, steppe, *Kandemir* 5426, Ir.-Tur.

*Cicer anatolicum*, Alef.

Erzincan: Keşiş D., Tekçam, 2430 m, 39°45'37" N, 39°46'43" E, 20 vii 2003, stony places, *Kandemir* 5630, Ir.-Tur.

*Cicer insicum* (Willd.) K.Maly

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, flowing slopes, *Kandemir* 4690; Keşiş D. above Üzümlü, 2323 m, 39°45'31" N, 39°43'39" E, 15 vii 2004, destroyed gravelly places, *Kandemir* 6445.

*Cicer pinnatifidum* Jaub. & Spach

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, *Kandemir* 3661.

*Colutea cilicica* Boiss. & Ball.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky places, *Kandemir* 3736.

*Coronilla orientalis* Miller subsp. *orientalis*

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, slopes, *Kandemir* 3674

*Coronilla varia* L. subsp. *varia*

Erzincan: Pöske D., around Ahmetli village, 2150 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, sloping side, *Kandemir* 5484.

*Genista albida* Willd.

Erzincan: Keşiş D. Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, stony places, *Kandemir* 6320; from Erzincan to Kelkit, 15 km, 1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, in valley, *Kandemir* 5265.

*Genista aucheri* Boiss.

Erzincan: Around Yalnızbağ village, in valley, 1450 m, 29 v 2001, destroyed places, *Kandemir* 3074, End., Ir.-Tur.

*\*Glycyrrhiza glabra* L. var. *glabra*

Erzincan: Dağınık D., around Çakırman village, 1480 m, 26 vi 2002, above slopes, *Kandemir* 4013.

*Hedysarum erythroleucum* Boiss.

Gümüşhane: Sipikör Pass, 2350 m, 13 vii 2003, limestone, *Kandemir* 5578, End. Ir.-Tur.

*Hedysarum hedysaroides* (L.) Schinz & Thell.

Erzincan: Keşiş D., Yedigöller, 2600 m, 27 vii 2002, streamside, damp meadow, *Kandemir* 4887.

*Hedysarum nitidum* Willd.

Erzincan: Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, stony places, *Kandemir* 5462, Gümüşhane: Sipikör Pass, 2300 m, 01 viii 2004, roadside, slopes, *Kandemir* 6661, End., Ir.-Tur.

*Lathyrus pratensis* L.

Erzincan: Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, 01 viii 2004, meadow, *Kandemir* 6642, Gümüşhane: Sipikör Pass, Yerebatan, 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, streamside, *Kandemir* 5793, Euro.-Sib.

*Lathyrus roseus* Stev.

Erzincan: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, under forest, *Kandemir* 5240, Hyrc.-Eux.

*Lathyrus rotundifolius* Willd. subsp. *miniatus* (Bieb. ex Stev.) Davis

Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, under forest, *Kandemir* 6572.

*Lathyrus tukhtensis* Czecz.

Erzincan: Keşiş D., Tekçam, 2250 m, 39°44'02" N, 39°47'82" E, 08 vi 2003, damp places, *Kandemir* 5210, End.

*Lotus corniculatus* L. subsp. *alpinus* Ser.

Erzincan: Ahi D., 2484 m, 39°50'66" N, 39°33'99" E, 23 vii 2004, meadow, *Kandemir* 6550; Keşiş D., around Yedigöller, 2600 m, 27 vii 2002, damp meadow, *Kandemir* 4928.

*Onobrychis altissima* Grossh.

Erzincan: Dağınık D., around Çakırman village, 22 vi 2003, roadside, *Kandemir* 5282.

*\*Onobrychis araxina* Schischkin

Erzincan: Ağılözü, 1167 m, 39°52'78" N, 39°15'92" E, 01 x 2004, sandy places, *Kandemir* 6861; Keşiş D., above Yaylalar village, 2100 m, 39°50'56" N, 39°47'63" E, 29 vi 2002, stony places, *Kandemir* 4053, End.

*Onobrychis armena* Boiss. & Huet

Erzincan: Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, steppe, *Kandemir* 5477, End., Ir.-Tur.

*Onobrychis cappadocica* Boiss.

Erzincan: Dağınık D., around Çakırman village, 1350 m, 22 vi 2003, roadside, *Kandemir* 5280, End., Ir.-Tur.

*Onobrychis cornuta* (L.) Desv.

Erzincan: Keşiş D., above Üzümlü, 2500 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3836, Ir.-Tur.

*Onobrychis densijuga* Hedge & Hub.-Mor.

Erzincan: Sipikör D., 39°52'99" N, 39°32'67" E, 2546 m, pasture-land, 08 vii 2004, *Kandemir* 6370, End.

*\*Onobrychis elata* Boiss. & Bal.

Erzincan: From Erzincan to Kolçekmez D., 1 km, 1300 m, 28 v 2004, roadside, *Kandemir* 6011, End.

*Onobrychis galegifolia* Boiss.

Erzincan: Kolçekmez D., 2100 m, 08 vii 2004, steppe, *Kandemir* 6378; Keşiş D., above Üzümlü, 1600 m, 20 vii 2002, steppe, *Kandemir* 4826, Ir.-Tur.

*Onobrychis huetiana* Boiss.

Erzincan: Kolçekmez D., Handere Road, 1993 m, 39°48'46" N, 39°31'23" E, 30 vi 2003, steppe, *Kandemir* 5408; Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6510, End., Ir.-Tur.

*Onobrychis oxydonta* Boiss.

Erzincan: Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, pasture-land, *Kandemir* 5463.

*\*Onobrychis stenostachya* Freyn subsp. *krausei* (İrj.) Hedge

Erzincan: Sipikör D., 1300 m, 28 v 2004, roadside, *Kandemir* 6011, End.

*Onobrychis stenostachya* Freyn subsp. *sosnowskyi* (Grossh.) Hedge

Erzincan: Yalnızbağ village, 1445 m, 39°48'33" N, 39°24'73" E, 14 vi 2003, slopes, *Kandemir* 5220, End., Ir.-Tur.

*Ononis spinosa* L.

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1450 m, 25 viii 2002, damp places, *Kandemir* 5051, Gümüşhane: Pöske D., 2000 m, 19 viii 2003, in valley, damp places, *Kandemir* 5810

*Oxytropis lazica* Boiss.

Erzincan: Keşiş D. Yedigöller, 3124 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, pasture, *Kandemir* 6309.

*Oxytropis lupinoides* Grossh.

Erzincan: Çardaklı village, 1300 m, 24 v 2003, flowing slopes, *Kandemir* 5131, Ir.-Tur.

*Trifolium arvense* L.

Erzincan: Keşiş D., Yaylalar village, 1400 m, 29 vi 2002, pasture-land, *Kandemir* 4175.

*\*Trifolium barbulatum* (Freyn & Sint.) Zoh.

Erzincan: Keşiş D. Turna River, 2162 m, 39°51'89" N, 39°43'58" E, 26 vi 2004, meadow, *Kandemir* 6209, Gümüşhane: Sipikör Pass Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, rocky places, *Kandemir* 6721, End.

*Trifolium campestre* Schreb.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky, *Kandemir* 3738, Gümüşhane: Devekorusu, 2380 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, rocky, *Kandemir* 5363.

*Trifolium pannonicum* Jacq. subsp. *elongatum* (Willd.) Zoh.

Erzincan: Sipikör Pass, 2200 m, 39°35'75" N, 39°35'76" E, 18 vii 2004, pasture-land, *Kandemir* 653, End.

*Trifolium pratense* Schreb.

Erzincan: Keşiş D. Yaylalar village, 1400 m, 29 vi 2002, pasture-land, *Kandemir* 4177.

*Trifolium rytidosemium* Boiss. & Hoh.  
subsp. *rytidosemium*

Erzincan: Sipikör Pass, 2250 m, 13 vii 2003, streamside, *Kandemir* 5588; Pöske D., 2141 m, 10 vii 2003, streamside, *Kandemir* 5482, Hyrc.-Eux.

\**Trifolium spadiceum* L.

Gümüşhane: Devekorusu, 2350 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, rocky, *Kandemir* 5358, Euro.-Sib.

*Vicia alpestris* Stev. subsp. *hypoleuca* (Boiss.) Davis

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky, *Kandemir* 3949; around Karadağ Radio Linkage Station, 2800 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, stony places, *Kandemir* 5440, End., Ir.-Tur.

\**Vicia hirsuta* (L.) S.F.Gray

Erzincan: Keşiş D., above Ekşisu, 1540 m, 08 vi 2002, stony places, *Kandemir* 3901.

#### FAGACEAE

\**Quercus infectoria* Olivier subsp. *boissieri* (Reuter) O.Schwarz

Erzincan: Erzincan-Erzurum road, Göller, 1490 m, 03 ix 2003, in forest, *Kandemir* 5887.

\**Quercus libani* Olivier

Erzincan: Keşiş D., above Ekşisu, 1600 m, 10 viii 2002, roadside, *Kandemir* 5002, Ir.-Tur.

*Quercus macranthera* Fisch. & Mey. ex Hohen. subsp. *sypirensis* (C.Koch) Menitsky

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5020, Gümüşhane: Pöske D., around Yeniöl village, 39°41'13" N, 39°22'08" E, 09 vii 2005, *Kandemir* 7046, End.

*Quercus robur* L. subsp. *pedunculiflora* (C.Koch) Menitsky

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, slopes, *Kandemir* 3945, Ir.-Tur.

#### FUMARIACEAE

*Fumaria asepala* Boiss.

Erzincan: Dağınık D., above Günebakan village, 1300 m, 05 v 2002, field side, *Kandemir* 3519, Ir.-Tur.

#### GENTIANACEAE

*Centaurium pulchellum* (Swartz) Druce

Erzincan: from Erzincan to Kelkit, Davarlı, 1500 m, 26 vii 2003, streamside, pasture-land, *Kandemir* 5709.

*Gentiana aquatica* L.

Gümüşhane: Sipikör D., 2204 m, 39°53'59" N, 39°35'33" E, 03 ix 2003, damp pastures, *Kandemir* 5870.

*Gentiana cruciata* L.

Erzincan: Sakaltutan, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, slopes stony places, *Kandemir* 6693, Euro.-Sib.

*Gentiana gelida* Bieb.

Gümüşhane: Pöske D., 2350 m, 39°54'39" N, 39°21'01" E, 26 vii 2003, pasture-land, *Kandemir* 5672, Eux.

\**Gentiana oliveri* Griseb.

Erzincan: Dağınık D., Kızlar Castle, 1700 m, 22 vi 2003, steppe, *Kandemir* 5345, Ir.-Tur.

\**Gentiana septemfida* Palas

Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, damp meadow, *Kandemir* 5738, Hyrc.-Eux.

*Gentiana verna* L. subsp. *pontica* (Soltok) Hayek.

Erzincan: Keşiş D., Tekçam 2600 m, 06 vii 2002, streamside, damp meadow, *Kandemir* 4213; Keşiş D., Tekçam, 2400 m, 39°44'32" N, 39°47'35" E, 07 vi 2003, damp places, *Kandemir* 5178, Hyrc.-Eux.

*Gentianella ciliata* (L.) Borkh. subsp. *blepharophora* (E.Bordz.) Pritchard

Gümüşhane: Sipikör D., 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, shady places, *Kandemir* 5795, Hyrc.-Eux.

*Swertia iberica* Fischer ex C.A.Meyer

Gümüşhane: Sipikör D., 2100 m, 09 viii 2001, damp meadow, *Kandemir* 2370, Eux.

*Swertia longifolia* Boiss.

Erzincan: Keşiş D., above Ekşisu, 2250 m, 10 viii 2002, damp meadow, *Kandemir* 5019, Hyrc. Eux.

#### GERANIACEAE

*Erodium absinthoides* Willd. subsp. *armenum* (Trautv.) Davis

Gümüşhane: Sipikör D., 2100 m, 13 vii 2003, in valley, shady places, *Kandemir* 5554.

\**Erodium absinthoides* Willd. subsp. *absinthoides*

Erzincan: Ahi D., 2909 m, 39°50'67" N, 39°35'10" E, 23 vii 2004, lime places, *Kandemir* 6558, Gümüşhane: Sipikör Pass, 2554 m, 39°52'57" N, 39°34'52" E, 08 vii 2004, rocky, *Kandemir* 6393, Ir.-Tur.

*Erodium amanum* Boiss. & Kotschy

Erzincan: Dağınık D., 2867 m, 39°47'92" N, 39°28'19" E, 27 viii 2003, serpentine, *Kandemir* 5835, End.

*Geranium cinerum* Cav. subsp. *subcaulescens* (L'Herit. ex DC.) Hayek var. *subcaulescens*

Gümüşhane: Sipikör D. Yerebatan, 2282 m, 39°53'43" N, 39°35'28" E, 02 vi 2004, lime stones, *Kandemir* 6013.

*Geranium ibericum* Cav. subsp. *jubatatum* (Hand.-Mazz.) Davis

Gümüşhane: Between Sipikör and Akdağ, 2270 m, 39°53'89" N, 39°31'47" E, 08 vii 2004, in valley, streamside, *Kandemir* 6402; Sipikör D., 2100 m, 17 vii 2003, in valley, shady places, *Kandemir* 5573, End., Eux.

*Geranium stepporum* Davis

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3627, Ir.-Tur.

*Pelargonium endlicherianum* Fenzl

Erzincan: Ağılözü, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, gravelly places, *Kandemir* 5455.

#### GLOBULARIACEAE

*Globularia trichosantha* Fisch. & Mey.

Erzincan: Sipikör D., 1900 m, 19 v 2002, stony places, *Kandemir* 3618; Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, pasture-land, *Kandemir* 3930.

#### HYPERICACEAE

\**Hypericum armenum* Jaub. & Spach

Erzincan Keşiş D., Tekçam, 2650 m, 06 vii 2002, roadside, *Kandemir* 4520, Ir.-Tur.



*Hypericum hyssopifolium* Chaix subsp. *elongatum* (Ledeb.) Woron. var. *elongatum*

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, pasture-land, *Kandemir* 4121, Ir.-Tur.

*Hypericum hyssopifolium* Chaix subsp. *elongatum* (Ledeb.) Woron var. *microcalycinum* Boiss.

Erzincan: East of Sipikör D., South of Kovalık Pass, 2386 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, damp meadow, *Kandemir* 5368; Dağınık D., Kızlar Castle, 2200 m, 22 vi 2003, pasture-land, *Kandemir* 5330; Pöske D., around Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 14 vi 2003 pasture-land, *Kandemir* 5224, Ir.-Tur.

*Hypericum linarioides* Bosse

Erzincan: Keşiş D., Yedigöller, 2800 m, 27 vii 2002, *Juniperus* side, *Kandemir* 4916.

*Hypericum perforatum* L.

Erzincan: Keşiş D., above Üzümlü, 1900 m, 23 viii 2002, meadow, *Kandemir* 5067.

*Hypericum scabroides* Robson & Poulter

Erzincan: Kelkit Road, Davarlı, in valley, 1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, steppe, *Kandemir* 5267, End., Ir.-Tur.

*Hypericum scabrum* L.

Erzincan: Keşiş D., above Üzümlü, 1650 m, 25 v 2002, roadside, *Kandemir* 3677; Keşiş D., Tekçam, 2400 m, 06 vii 2002, roadside, *Kandemir* 4200, Ir.-Tur.

*Hypericum uniglandulosum* Hausskn. ex Bornm.

Erzincan: Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6504, End., Ir.-Tur.

*Hypericum venustum* Fenzl

Gümüşhane: Sipikör D., 2200 m, 30 vi 2003, streamside, *Kandemir* 5393.

#### ILLECEBRACEAE

\**Herniaria glabra* L.

Erzincan: Dağınık D., Kızlar Castle, 1940 m, 39°46'92" N, 39°35'52" E, 17 vii 2004, steppe, *Kandemir* 4682.

\**Paronychia anatolica* Czecz. subsp. *anatolica*

Erzincan: Dağınık D., around Çakırman village, 1350 m, 22 vi 2003, exposed eroded areas, *Kandemir* 5302.

\**Paronychia argyroloba* Stapf

Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, destroyed places, *Kandemir* 6132, End.

*Paronychia kurdica* Boiss. subsp. *kurdica*

Erzincan: Keşiş D., above Üzümlü, 1700 m, 15 vi 2002, steppe, *Kandemir* 3972.

*Paronychia arabica* (L.) DC. subsp. *euphratica* Chaudhri.

Erzincan: From Yalnızbağ to Kelkit, 3 km, 1400 m, 26 vii 2003, serpentine, *Kandemir* 5721, End., Ir.-Tur.

#### LAMIACEAE

*Ajuga orientalis* L.

Erzincan: Keşiş D., 1600 m, 20 vii 2002, damp meadow, *Kandemir* 4728; above Karakaya village, 2000 m, 09 vii 2002, damp meadow, *Kandemir* 6018,

*Eremostachys moluccelloides* Bunge

Erzincan: Keşiş D., above Ekşisu, 1400 m, 05 v 2002, rocky slopes, *Kandemir* 3549, Ir.-Tur.

*Lallemantia peltata* (L.) Fisch. & Mey.

Erzincan: Keşiş D. Turna River, 2162 m, 39°51'89" N, 39°43'58" E, 26 vi 2004, pastures, *Kandemir* 6208, Ir.-Tur.

*Lallemantia canescens* (L.) Fisch. & Mey.

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, slopes, *Kandemir* 5294; Pöske D., 2142 m, 39°53'31" N, 39°22'52" E, 10 vii 2003, roadside, *Kandemir* 5490, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2002, roadside, *Kandemir* 6584, Ir.-Tur.

*Lallemantia iberica* (Bieb.) Fisch. & Mey.

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, roadside, *Kandemir* 3740, Ir.-Tur.

*Lamium armenum* Boiss. subsp. *armenum*

Erzincan: Keşiş D., above Üzümlü, 2323 m, 39°45'31" N, 39°43'39" E, 15 vii 2004, limestone, *Kandemir* 6443; Keşiş D., Aksu River, 2728 m, 39°49'15" N, 39°42'40" E, 19 ix 2004, serpentine, flowing slopes, *Kandemir* 6857, Eux.

*Lamium galactophyllum* Boiss. & Reuter.

Erzincan: Sakaltutan, 2700 m, 39°54'50" N, 39°08'17" E, 05 vii 2003, rocky, *Kandemir* 5433, End., Ir.-Tur.

*Lamium macrodon* Boiss. & Huet

Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, stony slopes, *Kandemir* 3566, Ir.-Tur.

*Marrubium astracanicum* Jacq. subsp. *astracanicum*

Erzincan: Keşiş D., above Üzümlü, 2400 m, 20 vii 2002, roadside, *Kandemir* 4850, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, subalpine meadow, *Kandemir* 6109.

*Marrubium astranicum* Jacq. subsp. *macrodon* (Bornm.) P.H.Davis

Erzincan: Keşiş D., above Üzümlü, 2400 m, 20 vii 2002, roadside, *Kandemir* 4850, End.

*Marrubium parviflorum* Fisch. & Mey. subsp. *parviflorum*

Erzincan: Dağınık D. above Çakırman village, 1900 m, 02 vi 2002, roadside, colluvial soil, *Kandemir* 3711; Kolçekmez D., 2000 m, 13 vii 2003, slopes, *Kandemir* 5607, Ir.-Tur.

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

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, damp places, *Kandemir* 5809, Eux.

*Mentha longifolia* (L.) Hudson subsp. *typhoides* (Briq.) Harley var. *typhoides*

Erzincan: Dağınık D., around Kızlar Castle, 2055 m, 39°45'08" N, 39°35'82" E, 27 viii 2003, watery places, *Kandemir* 5857.

*Mentha spicata* L. subsp. *spicata*

Erzincan: Dağınık D., East of Kızlar Castle, 2055 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, watery places, *Kandemir* 5857.

*Nepeta betonicifolia* C.A.Meyer

Erzincan: Keşiş D. Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6258, Gümüşhane: Sipikör Pass, 2554 m, 39°52'57" N, 39°34'52" E, 08 vii 2004, limestone, *Kandemir* 6389, Ir.-Tur

*Nepeta fissa* C.A. Meyer

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1500 m, 06 vii 2002, flowing slopes, *Kandemir* 4748, Ir.-Tur.

*Nepeta italica* L.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1500 m, 06 vii 2002, flowing slopes, *Kandemir* 4746.

*Nepeta lamiifolia* Willd.

Erzincan: Keşiş D., Yedigöller, 2700 m, 17 vii 2003, flowing slopes, *Kandemir* 5564.

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

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, among *Juniperus*, *Kandemir* 4720.

*Nepeta transcucasica* Grossh.

Erzincan: Keşiş D., above Üzümlü, 2750 m, 20 vii 2002, pasture-land, *Kandemir* 4802, Ir.-Tur.

*Origanum acutidens* (Hand.-Mazz.) Letswaart

Erzincan: Keşiş D., above Üzümlü, slopes, 1800 m, 23 viii 2002, flowing slopes, *Kandemir* 5046; Sakaltutan, 2397 m, 39°53'38" N, 39°08'30" E, 06 viii 2004, stony places, *Kandemir* 6702, Gümüşhane: Sipikör D., South-east of Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, flowing slopes, *Kandemir* 6618, End., Ir.-Tur.

\**Origanum vulgare* L. subsp. *vulgare*

Gümüşhane: Sipikör D., 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, forest side, *Kandemir* 5792.

*Phlomis linearis* Boiss. & Bal.

Erzincan: Pöske D., around Ahmetli village, 2150 m, 10 vii 2003, steppe, *Kandemir* 5517; Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, steppe, *Kandemir* 5038, End., Ir.-Tur.

*Phlomis pungens* Willd. subsp. *hirta* Velen.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1700 m, 06 vii 2002, slopes, *Kandemir* 4756; Sipikör D., 2202 m, 39°52'18" N, 39°33'20" E, 09 v 2003, in valley, slopes, *Kandemir* 5765.

*Phlomis tuberosa* L.

Erzincan: Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, shady places, *Kandemir* 5474, Gümüşhane: Sipikör D. Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, pastures, *Kandemir* 6519.

*Prunella vulgaris* L.

Erzincan: Keşiş D., above Üzümlü, 2000 m, 23 viii 2002, damp meadow, *Kandemir* 5068; North-west of Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, watery places, *Kandemir* 5745, Euro.-Sib.

*Salvia candidissima* Vahl

Gümüşhane: North-west of Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, roadside, *Kandemir* 5741.

*Salvia frigida* Boiss.

Erzincan: Around Karadağ Radio Linkage Station, 2806 m, 39°54'88" N, 39°07'95" E, 05 vii 2003, stony places, *Kandemir* 5446; Ir.-Tur.

*Salvia multicaulis* Vahl

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, steppe, *Kandemir* 3822, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, steppe, *Kandemir* 6108, Ir.-Tur.

*Salvia pachystachys* Trautv.

Erzincan: Sipikör Pass, 2350 m, gravelly places, *Kandemir* 5393, Ir.-Tur.

*Salvia sclarea* L.

Gümüşhane: Pöske D., around Yeniöl village, 2000 m, 26 vii 2003, roadside, *Kandemir* 5701.

*Salvia steminea* Montbret & Aucher ex Benth

Erzincan: Keşiş D., around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, pasture-land, *Kandemir* 6195; Bayırbağ, 1315 m, 06 vii 2002, pasture-land, *Kandemir* 4744, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, pastures, *Kandemir* 6119.

*Salvia suffruticosa* Montbret & Aucher ex Benth

Erzincan: Keşiş D. around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, steppe, *Kandemir* 6194, Ir.-Tur.

*Salvia verticillata* L. subsp. *amasiaca* (Frey & Bornm.) Bornm.

Erzincan: Üzümlü, Bayırbağ, 06 vii 2002, slopes, *Kandemir* 4744; Pöske D., around Ahmetli village, 26 vii 2003, roadside, *Kandemir* 5707, Ir.-Tur.

*Salvia virgata* Jacq.

Gümüşhane: Sipikör D., 2100 m, 13 vii 2003, in valley, *Kandemir* 5574, Ir.-Tur.

*Satureja hortensis* L.

Erzurum: From Erzincan to Çayırılı, 5 km, 1500 m, 08 viii 2004, roadside, *Kandemir* 6751.

*Scutellaria orientalis* L. subsp. *orientalis*

Erzincan: Üzümlü, Bayırbağ, 1500 m, 06 vii 2002, flowing slopes, *Kandemir* 4754; from Erzincan to Kelkit, 12 km, 1500 m, D. 31908, Ir.-Tur.

*Scutellaria orientalis* L. subsp. *pinnatifida* Edmonson

Erzincan: Keşiş D., above Üzümlü, 1660 m, 25 v 2002, *Kandemir* 3668; Keşiş D., around Yedigöller, 2600 m, 27 vii 2002, slopes, *Kandemir* 4920.

*Stachys annua* (L.) L. subsp. *annua* var. *annua*

Erzincan: Dağınık D., around Çakırman village, 1470 m, 39°46'12" N, 39°34'67" E, 22 vi 2003, slopes, *Kandemir* 5292.

\**Stachys annua* (L.) L. subsp. *annua* var. *lycaonica* Bhattacharjee

Erzincan: Keşiş D., Üzümlü, around Çardaklı village, 1300 m, 24 v 2003, slopes, *Kandemir* 5138, Ir.-Tur.

\**Stachys beyzantina* C.Koch

Erzincan: Keşiş D., around Yaylalar village, 1700 m, 29 vi 2002, roadside, *Kandemir* 4178, Gümüşhane: Pöske D., 2000 m, 19 viii 2003, in valley, forest side, *Kandemir* 5815, Euro.-Sib.

*Stachys cretica* L. subsp. *anatolica* Rech.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, roadside, *Kandemir* 4178, End., Ir.-Tur.

\**Stachys germanica* L. subsp. *bithynica* (Boiss.) Bhattacharjee

Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, slopes, *Kandemir* 5757; Pöske D., 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, slopes, *Kandemir* 5535.

*Stachys iberica* Bieb. subsp. *iberica* var. *iberica*

Erzincan: Keşiş D., above Üzümlü, 1800 m, 20 vii 2002, slopes, *Kandemir* 4868, Ir.-Tur.

*Stachys lavandulifolia* Vahl var. *lavandulifolia*

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3860, Ir.-Tur.

*Stachys macrantha* (C.Koch) Stearn

Gümüşhane: Sipikör D., Yerebatan, 2169 m, 39°53'54" N, 39°35'52" E, 18 vii 2004, pastures, *Kandemir* 6520; Sipikör D., Sint. 1889: 1181, Eux.

*Stachys macrostachya* (Wend.) Briq.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5022, Eux.

*Teucrium chamaedrys* L. subsp. *sypirensis* (C.Koch.) Rech.fil.

Erzincan: Dağınık D., around Çakırman village, 1460 m, 39°46'12" N, 39°34'67" E, 22 vi 2003, slopes, *Kandemir* 5290; Keşiş D., Üzümlü, Bayırbağ, 1300 m, 06 vii 2002, flowing slopes, *Kandemir* 4753, Ir.-Tur.

*Teucrium chamaedrys* L. subsp. *sinuatum* ('elak.) Rech.fil.

Erzincan: Keşiş D., Aksu River, 2728 m, 39°49'15" N, 39°42'40" E, 19 ix 2004, serpentine, *Kandemir* 6858; Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, stony places, *Kandemir* 6835, Ir.-Tur.

*Teucrium multicaule* Montbert & Aucher ex Benth

Erzincan: Keşiş D., Üzümlü, around Çardaklı village, 1300 m, 24 v 2003, flowing slopes, *Kandemir* 5132; from Erzincan to Kelkit, Davarlı, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, steppe, *Kandemir* 5252, Ir.-Tur.

*Teucrium orientale* L. var. *glabrescens* Hausskn. ex Bornm.

Erzincan: Ağıllöz, 1654 m, 39°52'73" N, 39°16'04" E, 05 vii 2003, *Kandemir* 5460, Ir.-Tur.

*Teucrium orientale* L. var. *Puberulens* T.Ekim

Erzincan: Keşiş D., above Üzümlü, 1800 m, 23 viii 2002, forest side, *Kandemir* 5088, Ir.-Tur.

*Teucrium polium* L.

Erzincan: Üzümlü, Bayırbağ, 1400 m, 06 vii 2002, slopes, *Kandemir* 4759.

\**Thymus canoviridis* Jalas

Erzincan: Keşiş D., Tekçam, 2432 m, 39°45'05" N, 39°39'48" E, slopes, *Kandemir* 5620; Pöske D., around Ahmetli village, 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, steppe, *Kandemir* 5525, End.

*Thymus fallax* Fisch. & Mey.

Erzincan: Keşiş D., above Yaylalar village, 2250 m, 29 vi 2002, steppe, *Kandemir* 4063; Tekçam, 2432 m, 39°45'05" N, 39°48'05" E, 20 vii 2002, slopes, *Kandemir* 4853; Keşiş D., 20 vii 2002, slopes, *Kandemir* 4919, Ir.-Tur.

*Thymus leucotrichus* Hal. var. *leucotrichus*

Erzincan: Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5258; Keşiş D., 2800 m, 20 vii 2002, stony places, *Kandemir* 4810; Tekçam, 2700 m, 06 vii 2002, stony places, *Kandemir* 4266. Medit.

*Thymus pubescens* Boiss. & Kotschy ex Celak var. *cratericola* Jalas

Erzincan: Keşiş D., above Üzümlü, 2400 m, 20 vii 2002, roadside, slopes, *Kandemir* 4846, End., Ir.-Tur.

*Thymus sipyleus* Boiss. *rosulans* (Borbas) Jalas

Erzincan: Keşiş D., above Üzümlü 2400 m, 20 vii 2002, roadside, slopes, *Kandemir* 4849.

*Thymus sipyleus* Boiss. subsp. *sipyleus* var. *sipyleus*

Erzincan: Kolçekmez D., Pass, 2403 m, 39°49'40" N, 39°31'70" E, *Kandemir*, steppe, *Kandemir* 5379; from Erzincan to Kelkit, Davarlı, 26 vii 2003, streamside, damp places, *Kandemir* 5708, End.

*Wiedemannia multifida* (L.) Benth

Erzincan: Keşiş D., around Çilhoroz village, 2236 m, 39°52'26" N, 39°44'02" E, 19 vi 2004, slopes, *Kandemir* 6192, Ir.-Tur.

*Wiedemannia orientalis* Fisch. & Mey.,

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3897, End., Ir.-Tur.

*Ziziphora clinopodioides* Lam.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, in valley, *Kandemir* 5032; above Üzümlü, 1900 m, 23 viii 2002, *Kandemir* 5085.

LENTIBULARIACEAE

*Pinguicula balcanica* Casper subsp. *pontica* Casper

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, watery places, *Kandemir* 4184, Eux.

LINACEAE

*Linum bienne* Miller

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, stony slopes, *Kandemir* 4100, Gümüşhane: Sipikör Pass, 19 vi 2004, rocky, *Kandemir* 6157, Medit.

*Linum flavum* L. subsp. *scabrinerve* (Davis) Davis

Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 25 vii 2004, roadside, *Kandemir* 6599, End., Ir.-Tur.

*Linum mucronatum* Bertol subsp. *armenum* (Bordz.) Davis

Erzincan: Kolçekmez D. Pass, 2000 m, 29 vi 2003, steppe, open areas, *Kandemir* 5385; Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, roadside, *Kandemir* 3892.

*Linum mucronatum* Bertol subsp. *mucronatum*

Erzincan: Keşiş D., above Üzümlü, 1700 m, 16 vi 2002, roadside, *Kandemir* 3976.

*Linum nervosum* Waldst. & Kit.

Erzincan: Keşiş D., Yaylalar village, 1400 m, 29 vi 2002, pasture-land, *Kandemir* 4174.

MALVACEAE

*Lavatera thuringiaca* L.

Gümüşhane: Pöske D., around Yeniyoğ village, 1200 m, 19 viii 2003, forest side, *Kandemir* 5806.

*Alcea hohenackeri* (Boiss. & Huet) Boiss.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1280 m, 13 vii 2003, stony slopes, *Kandemir* 5569.

\**Althea cannabina* L.

Erzincan: Keşiş D., above Üzümlü, 1751 m, 28 vii 2005, fieldside, *Kandemir* 6610.

**MORINACEAE**

*Morina persica* L.

Erzincan: Keşiş D., above Üzümlü, 1700 m, 23 viii 2002, steppe, *Kandemir* 5089, Ir.-Tur.

**ONAGRACEAE**

*Epilobium angustifolium* L.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, roadside, flowing slopes, *Kandemir* 4857, Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, shady places, *Kandemir* 6805.

*Epilobium gemmascens* C.A.Meyer

Erzincan: Dağınık D., 2907 m, 27 viii 2003, streamside, *Kandemir* 5867.

*Epilobium hirsutum* L.

Erzincan: Sipikör D., 2000 m, 19 vii 2003, watery places, *Kandemir* 5803.

*Epilobium roseum* Schreber subsp. subsp. *sessile* (Boiss.) P.H.Raven

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, *Populus tremula* forest, *Kandemir* 5808.

**OROBANCHACEAE**

*Orobanche alba* Steppehan

Erzincan: Keşiş D., above Üzümlü, 2500 m, 20 vii 2002, slopes, *Kandemir* 4851.

\**Orobanche bungeana* G.Beck

Erzincan: Keşiş D., Tekçam, 2251 m, 39°44'02" N, 39°47'82" E, 08 vi 2003, slopes, *Kandemir* 5215.

*Orobanche caryophyllacea* Sm.

Erzincan: Keşiş D., Tekçam, 2600 m, 06 vii 2002, slopes, *Kandemir* 4270.

*Orobanche caucasica* G.Beck

Erzincan: Keşiş D., Tekçam, 2600 m, 06 vii 2002, slopes, *Kandemir* 4221.

*Orobanche schultzei* Mutel

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, slopes, *Kandemir* 4203.

**PAEONIACEAE**

*Paonia mascula* Miller subsp. *arietina* (Anders.) Cullen & Heywood

Gümüşhane: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, under forest, *Kandemir*, 5235; Sipikör D. Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, rocky, *Kandemir* 6726.

**PAPAVERACEAE**

*Corydalis rutifolia* (Sibth. & Sm.) DC.

Erzincan: Keşiş D., above Üzümlü, 2440 m, 05 v 2002, open areas, *Kandemir* 3538.

\**Glaucium acutidentatum* Hausskn. & Bornm.

Erzincan: Kolçekmez D., 1993 m, 39°48'46" N, 39°31'23" E, 29 vi 2003, steppe, *Kandemir* 5401, End., Ir.-Tur.

*Glaucium flavum* Crantz

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, roadside, *Kandemir* 3867.

*Glaucium leiocarpum* Boiss.

Erzincan Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, roadside, *Kandemir* 3867; Kolçekmez D., 1993 m, 39°48'46" N, 39°31'23" E, 29 vi 2003, roadside, *Kandemir* 5403.

\**Hypecoum pendulum* L.

Erzincan: Keşiş D., above Ekşisu, 1205 m, 12 v 2002, roadside, *Kandemir* 3576.

\**Papaver bracteatum* Lindl.

Erzincan: Keşiş D., Tekçam, 2200 m, 06 vii 2002, stony slopes, *Kandemir* 4723.

*Papaver fugax* Poirlet var. *fugax*

Erzincan: Keşiş D., above Üzümlü, 2500 m, 20 vii 2002, stony slopes, *Kandemir* 4835; Pöske D., 2200 m, 39°54'13" N, 39°22'08" E, 09 vii 2005, roadside, *Kandemir* 7048, Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, slopes, *Kandemir* 5761.

\**Papaver persicum* Lindl. subsp. *flavum* Kit Tan & Sorger

Erzincan: Ahi D., 2386 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, rocky slopes, *Kandemir* 5350.

*Papaver rhoeas* L.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3902,

*Papaver triniifolium* Boiss.

Erzincan: Erzincan-Kelkit road, Yalnızbağ, 1450 m, 09 vii 2005, stony places, *Kandemir* 7049; Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, roadside, colluvial soil, *Kandemir* 4076, End., Ir.-Tur.

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

Erzincan: Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky places, *Kandemir* 3734; Keşiş D., above Ekşisu, 1300 m. 12 v 2002, roadside, *Kandemir* 3576.

**PARNASSIACEAE**

*Parnassia palustris* L.

Gümüşhane: Sipikör D., 2204 m, 19 viii 2003, streamside, *Kandemir* 5789.

**PLANTAGINACEAE**

*Plantago atrata* Hoppe

Erzincan: Keşiş D., above E'kisu, 1205 m, 12 v 2002, roadside, *Kandemir* 3574; Keşiş D., Tekçam, 2600 m, 06 vii 2002, roadside, *Kandemir* 4272.

*Plantago euphratica* Decne. ex Barneoud

Erzincan: From Erzincan to Kelkit, around Yalnızbağ village, 1200 m, 30 viii 1999, lime soil, *Kandemir* 865, End., Ir.-Tur.

*Plantago maritima* L.

Erzincan: From Erzincan to Kelkit, around Yalnızbağ village, 1200 m, 26 vii 2003, salty damp places, *Kandemir* 5717.

*Plantago media* L.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, *Kandemir* 4172; Turna River damp bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6238.

**PLUMBAGINACEAE**

*Acantholimon armenum* Boiss. & Huet var. *balansae* Boiss. & Huet

Erzincan: Keşiş D., above Üzümlü, 2220 m, 10 viii 2002 steppe, *Kandemir* 5024, Ir.-Tur.

*Acantholimon caesarum* Boiss. & Bal.

Erzincan: Pöske D., around Çilli Lake, 2141 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, stony places, *Kandemir* 5486; Pöske D., around Ahmetli village, 2350 m, 39°54'39" N, 39°21'01" E, 27 vii 2003, steppe, *Kandemir* 5674, End., Ir.-Tur.

*Acantholimon hypochaerum* Bokhari

Erzincan: Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, steppe, *Kandemir* 5013; Keşiş D., above Üzümlü, 1500 m, 23 viii 2002, steppe, *Kandemir* 5049, End., Ir.-Tur.

*Acantholimon ulicinum* (Schultes) Boiss. subsp. *laycaonicum* (Boiss. & Heldr.) Bokhari & Edmonson

Erzincan: Dağınık D., 2862 m, 39°49'92" N, 39°28'19" E, 27 viii 2003, *Kandemir* 5841, Ir.-Tur.

*Acantholimon venustum* Boiss. var. *assyriacum* Boiss.

Erzincan: Keşiş D., Geyikli village, 2200 m, 12 viii 2002, steppe, *Kandemir* 4971, End., Ir.-Tur.

#### POLYGALACEAE

*Polygala anatolica* Boiss. & Heldr.

Erzincan: Keşiş D., Tekçam, 2433 m, 39°45'75" N, 39°46'43" E, 20 vii 2003, damp meadow, *Kandemir* 5624; Üzümlü, Bayırbağ, 2000 m, 26 vii 2003, gravelly slopes, *Kandemir* 5715; Yaylalar village, 2200 m, 29 vi 2003, damp meadow, *Kandemir* 4082.

*Polygala major* Jacq.

Erzincan: Keşiş D., around Yaylalar village, 2200 m, 29 vi 2003, damp meadow, *Kandemir* 4173, Euro.-Sib.

*Polygala supina* Schreb.

Erzincan: Keşiş D., around Yaylalar village, 2200 m, 29 vi 2003, damp meadow, *Kandemir* 4139.

*Polygala vulgaris* L.

Erzincan: From Erzincan to Kelkit, 15 km, 1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, in valley, *Kandemir* 5264; Keşiş D., Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3851, Euro.-Sib.

#### POLYGONACEAE

*Atraphaxis grandiflora* Willd.

Erzincan: Keşiş D., North-west of Tekçam, 2700 m, 39°45'52" N, 39°45'72" E, 20 vii 2003, serpentine rocky, *Kandemir* 5631; Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5263; Davarlı, 17 vi 2004, flowing slopes, *Kandemir* 6152; Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, steppe, *Kandemir* 6691, End., Ir.-Tur.

*Atraphaxis spinosa* L.

Erzincan: Keşiş D., above Üzümlü, around irrigation pond, 1900 m, 23 viii 2002, steppe, *Kandemir* 5062; Dağınık D.,

around Çakırman village, 39°46'12" N, 39°34' 67" E, 22 vi 2003, slopes, *Kandemir* 5284; Kolçekmez D., 1450 m, 13 vii 2003, gravelly slopes, *Kandemir* 5616, Ir.-Tur.

*Rheum ribes* L.

Erzincan: Keşiş D., 2600 m, D. 31741, Ir.-Tur.

*Polygonum alpinum* All.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky places, *Kandemir* 3951.

*Polygonum bistorta* L. subsp. *bistorta*

Erzincan: Pöske D., near Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 14 vi 2003, watery meadow, *Kandemir* 5227; Pöske D., near Ahmetli village, 2068 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, watery places, *Kandemir* 6138, Euro.-Sib.

*Polygonum cognatum* Meissn.

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3840.

*Polygonum polycnemoides* Jaub. & Spach

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, slopes, *Kandemir* 4024, Ir.-Tur.

*Polygonum pulchellum* Lois.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, shady places, *Kandemir* 4025.

*Polygonum setosum* Jacq.

Erzincan: Keşiş D., Tekçam, 2700 m, 39°45'52" N, 39°45'72" E, 20 vii 2003, slopes, *Kandemir* 5633, Ir.-Tur.

*Rumex acetosella* L.

Erzincan: Keşiş D., Yedigöller, 2700 m, 27 vii 2002, slopes, *Kandemir* 4918; South-west of Sipikör Pass, 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, pasture-land, *Kandemir* 5753.

*Rumex alpinus* L.

Erzincan: Keşiş D. Turna River, 2164 m, 39°51'65" N, 39°43'11" E, 26 vi 2004, streamside, *Kandemir* 6260.

*Rumex angustifolius* Campd. subsp. *angustifolius*

Erzincan Keşiş D., Tekçam, 2400 m, 06 vii 2002, roadside, *Kandemir* 4180.

*Rumex angustifolius* Campd. subsp. *macranthus* (Boiss.) Rech.

Erzincan Keşiş D., Tekçam, 2576 m, 39°44'66" N, 39°47'60" E, 18 vi 2006, slopes, *Kandemir* 6972, Ir.-Tur.

*Rumex crispus* L.

Erzincan: South-west of Sipikör Pass, 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, flowing soil, *Kandemir* 5763.

*Rumex ponticus* E.H.L.Krause

Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6570, End., Ir.-Tur.

*Rumex scutatus* L.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3761; Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3886.

\**Rumex tuberosus* L. subsp. *tuberosus*

Erzincan: Keşiş D., above Üzümlü, 1700 m, 16 vi 2002, stony places, *Kandemir* 3981.

#### PRIMULACEAE

*Androsace armeniaca* Duby var. *macrantha* (Boiss. & Huet) Martelli

Gümüşhane: Sipikör D., 2546 m, 39°52'99" N, 39°32'67" E, 08 vii 2004, pasture-land, *Kandemir* 6349, End.

*Androsace villosa* L.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, destroyed places, *Kandemir* 4164, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, destroyed places, *Kandemir* 6135; Sipikör D., 2050 m, 02 vi 2004, subalpine meadow, *Kandemir* 6023,

*Lysimachia verticillaris* Sprengel

Gümüşhane: Pöske D., 2000 m, 19 viii 2003, under forest, *Kandemir* 5807, Hyrc.-Eux.

\**Glaux maritima* L.

Erzincan: From Erzincan to Kelkit, Davarlı, 1450 m, 26 vii 2003 among *Juncus*, *Kandemir* 5710.

*Primula auriculata* Lam,

Erzincan: Keşiş D., above Üzümlü, 2240 m, 05 v 2002, watery places, *Kandemir* 3528, Ir.-Tur.

*Primula elatior* (L.) Hill. subsp. *pallasii* (Lehm.) W.W. Sm. & Forrest

Erzincan: Handere, 2362 m, 39°50'34" N, 39°33'17" E, 10 v 2003, watery places, *Kandemir* 5114; Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 01 v 2004, watery places, *Kandemir* 5910, Euro.-Sib.

RANUNCULACEAE

*Aconitum cochleare* Woroschin

Erzincan: Keşiş D., Tekçam, Buzhane, 2690 m, 20 vii 2003, shady places, *Kandemir* 5638, Gümüşhane: Sipikör D. Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, rocky, *Kandemir* 6723.

*Adonis flammea* Jacq.

Erzincan: Keşiş D., Üzümlü, 1740 m, 25 v 2002, roadside, *Kandemir* 3645.

*Anemone albana* Stev.

Erzincan: Keşiş D., Yedigöller, 2800 m, 27 vii 2002, alpine meadow, *Kandemir* 4930; Ahi D., Handere, 2362 m, 39°50'34" N, 39°33'17" E, 10 v 2003, stony places, *Kandemir* 5115, Gümüşhane: Esence M., Devekorusu, 2246 m, 39°52'75" N, 39°38'62" E, 09 v 2004, *Kandemir* 5944.

*Anemone narcissiflora* L. subsp. *narcissiflora*

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, flowing gravelly slopes, *Kandemir* 4114, Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, stony places, *Kandemir* 5318.

*Aquilegia olympica* Boiss.

Erzincan: Keşiş D., Yedigöller, 2200 m, 29 vi 2002, streamside, *Kandemir* 4088.

*Caltha polypetala* Hochst. ex Laurent

Erzincan: Pöske D., in front of Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 01 v 2004, watery places, *Kandemir* 5908, Gümüşhane: Sipikör Pass, 2300 m, 19 v 2002, damp soil, *Kandemir* 3609.

*Ceratocephalus testiculatus* (Crantz) Roth

Erzincan: Dağınık D., above Günebakan village, 1470 m, 14 iv 2002, roadside, sandy soil, *Kandemir* 3503.

*Clematis orientalis* L.

Erzincan: Keşiş D., above Üzümlü, 1450 m, 23 viii 2002, *Kandemir* 5050.

*Consolida oliveriana* (DC) Schröd.

Erzincan: From Erzincan to Çayırılı road, 6 km, steppe, 1450 m, 13 vii 2003, *Kandemir* 5612, Ir.-Tur.

*Consolida olopetala* (Boiss.) Hayek

Erzincan: Keşiş D., above Ekşisu, colluvial soil, 1600 m, 12 viii 2002, *Kandemir* 5001; from Erzincan to old Çayırılı road, 1 km, 1250 m, 23 vii 2004, colluvial soil, *Kandemir* 6542, Gümüşhane: Sipikör D. around Güllüce village, 1176 m, 39°54'33" N, 39°38'65" E, 01 viii 2004, pasture-land, *Kandemir* 6659, End., Ir.-Tur.

*Consolida orientalis* (Gay) Schröd.

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, roadside, colluvial soil, *Kandemir* 3904, Gümüşhane: Around Güllüce village, 1176 m, 39°54'33" N, 39°38'65" E, 01 viii 2004, pastures, *Kandemir* 6659.

*Consolida scleroclada* (Boiss.) Schröd. var. *rigida* (Frey & Sint.) Davis

Erzincan: Kolçekmez D., 1787 m, 39°47'28" N, 39°30'72" E, 23 vii 2004, steppe, *Kandemir* 6538;

*Delphinium albiflorum* DC.

Gümüşhane: Sipikör D., Güllüce village, in valley, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, flowing sloping side, *Kandemir* 6621.

*Delphinium dasystachyum* Boiss. & Bal.

Erzincan: Dağınık D., 2500 m, 08 vi 2002, rocky, *Kandemir* 3834; End., Ir.-Tur.

*Delphinium formosum* Boiss. & Huet

Gümüşhane: Akdağ, 2133 m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6582, End. Eux.

*Delphinium linearilobum* (Trautv.) Busch

Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'57" E, 07 viii 2004, rocky, *Kandemir* 6727, Ir.-Tur.

*Nigella latisecta* Davis

Erzincan: Yalnızbağ, 1445 m, 39°48'33" N, 39°24'73" E, 14 vi 2003, slopes, *Kandemir* 5223, Ir.-Tur.

*Ranunculus brachylobus* Boiss. & Hoh. subsp. *brachylobus*

Erzincan: Pöske D., around Ahmetli village, 2100 m, 39°53'48" N, 39°22'26" E, 15 v 2004, alpine meadow, watery place,

*Kandemir* 5980, Gümüşhane: Akdağ, 2100 m, 39°52'84" N, 39°27'33" E, 23 v 2004, damp pasture, *Kandemir* 5994, Hyr.-Eux.

*Ranunculus brachylobus* Boiss. & Hoh. subsp. *incisilobatus* Davis

Erzincan: South-east of Sipikör Pass, 2420 m, 39°53'09" N, 39°34'47" E, 19 vi 2004 streamside, *Kandemir* 6181; Keşiş D., Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, stony slopes, *Kandemir* 6286; Ir.-Tur.

*Ranunculus brutius* Ten.

Erzincan: Pöske D., 2134 m, 39°53'85" N, 39°32'97" E, 27 vi 2004, in forest, *Kandemir* 6277, Euro.-Sib.

*Ranunculus caucasicus* Bieb. subsp. *subleiocarpus* (Somm. & Lev.) Davis

Erzincan: Sipikör D., South of Mecidiye village, 1956 m, 39°50'50" N, 39°32'37" E, 19 vi 2004, damp meadow, *Kandemir* 6178.

*Ranunculus constantinopolitanus* (DC.) Urv.

Erzincan: Pöske D., Ahmetli village, North of Pump Station, 2100 m, 39°53'48" N, 39°22'26" E, 15 v 2004, alpine meadow, damp place, *Kandemir* 5978.

\**Ranunculus dissectus* Bieb. subsp. *sibthorpii* (Boiss.) Davis

Erzincan: Kovalık Pass, 2393 m, 39°51'86" N, 39°38'62" E, 09 v 2004, alpine meadow, *Kandemir* 5953; Sipikör Pass, 2300 m, 39°52'85" N, 39°32'52" E, 02 vi 2004, alpine meadow, *Kandemir* 6026.

*Ranunculus isthmicus* Boiss. subsp. *steppeporum* Davis

Erzincan: Pöske D., Ahmetli village around, 2098 m, 39°53'43" N, 39°21'53" E, 01 v 2004, watery meadow, *Kandemir* 5905.

*Ranunculus kochii* Ledeb.

Erzincan: Kovalık Pass, 2393 m, 39°51'86" N, 39°38'62" E, 09 v 2004, watery meadow, *Kandemir* 5946, Ir.-Tur.

*Thalictrum isopyroides* Meyer

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3620; Bayırbağ, 1290 m, 25 v 2002, rocky slopes, *Kandemir* 3692.

*Thalictrum minus* L. var. *microphyllum* Boiss.

Erzincan: Around Devekorusu village, 2386 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, *Kandemir* 5354.

\**Thalictrum minus* L. var. *minus*

Erzincan: Yalnızbağ village, 1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, in valley, slopes, *Kandemir* 5270; Pöske D., 2233 m, 39°53'97" N, 39°22'51" E, 26 vii 2003, in forest, *Kandemir* 5690.

#### RESEDACEAE

\**Reseda armena* Boiss. var. *scabridula* Abdullah & De Wit

Erzincan: Yalnızbağ, 1600 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, slopes, *Kandemir* 5253; Dağınık D., Çakırman village, 1450 m, 26 vi 2002, streamside gravelly places, *Kandemir* 4007, End., Ir.-Tur.

*Reseda lutea* L. var. *lutea*,

Erzincan: Keşiş D., above Üzümlü, 1700 m, 15 vi 2002, roadside, *Kandemir* 3974; Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3768.

#### RHAMNACEAE

*Rhamnus pallasii* Fisch. & Mey.

Erzincan: Keşiş D., above Üzümlü, 1500 m, 02 vi 2002, in valley, streamside, *Kandemir* 3752.

#### ROSACEAE

*Agrimonia eupatoria* L.

Erzincan: Dağınık D., around Geyikli village, 1300 m, 29 vii 2005, damp meadow, *Kandemir* 7161.

*Alchemilla armeniaca* Rothm.

Erzincan: Keşiş D., Tekçam 2300 m, 06 vii 2002, streamside, *Kandemir* 4709, End.

*Alchemilla ciminensis* B.Pawl.

Erzincan: Pöske D., North-west of Ahmetli village, 2148 m, 10 vii 2003, streamside, *Kandemir* 5523, End., Ir.-Tur.

\**Alchemilla crinita* Buser

Erzincan: Keşiş D., Yedigöller, 2600 m, 27 vii 2002, streamside, *Kandemir* 4899.

*Alchemilla erythropoda* Juz.

Gümüşhane: Sipikör Pass, 2100 m, 13 vii 2003, in valley, limestone, *Kandemir* 5572, Euro.-Sib.

*Alchemilla heterophylla* Rothm.

Erzincan: Keşiş D., 2200 m, 16 vi 2002, streamside, *Kandemir* 3993, Gümüşhane: Sipikör D., Devekorusu, 2386 m, 29 vi 2003, streamside, *Kandemir* 5355.

*Alchemilla minusculiflora* Buser.

Erzincan: Keşiş D., Tekçam 2200 m, 08 vi 2003, streamside, *Kandemir* 5210; Pöske D., 2309 m, 39°53'98" N, 39°22'16" E, 23 v 2004, gravelly places, *Kandemir* 5987, Eux.

*Alchemilla mollis* (Buser) Rothm.

Erzincan: Sipikör D., 2172 m, 39°51'17" N, 39°32'95" E, 26 vi 2004, watery places, *Kandemir* 6211.

*Alchemilla oriturcica* B.Pawl.

Erzincan: Keşiş D., above Üzümlü, 2300 m, 20 vii 2002, streamside, *Kandemir* 4763, End., Ir.-Tur.

*Alchemilla orthotricha* Rothm.

Erzincan: Sakaltutan, 2397 m, 39°53'38" N, 39°08'30" E, 06 viii 2004, streamside, *Kandemir* 6706, Eux.

*Alchemilla procerrima* Fröhner

Erzincan: Kolçekmez D. Pass, Çamlık, 2000 m, 13 vii 2003, streamside, *Kandemir* 5603, Gümüşhane: Sipikör D., 2300 m, 09 viii 2003, in valley damp places, *Kandemir* 5762, End.

*Alchemilla retinervis* Buser.

Erzincan: Keşiş D., 2800 m, 20 vii 2002, streamside, *Kandemir* 4809, Eux.

*Alchemilla sericata* Reichb.

Erzincan: Pöske D., 2141 m, 10 vii 2003, watery places, *Kandemir* 5479, Hyrc.-Eux.

*Alchemilla sintenisii* Rothm.

Erzincan: Keşiş D. 2300 m, 20 vii 2002, streamside, *Kandemir* 5784; Bayırbağ, 2000 m, 06 vii 2002, streamside, *Kandemir* 5739, Gümüşhane: Between Sipikör and Akdağ, 2260 m, 39°53'89" N, 39°31'57" E, 08 vii 2004, under *Juniperus*, *Kandemir* 6403, End., Eux.

*Amygdalus orientalis* Miller

Erzincan: Keşiş D., above Ekşisu, 1450 m, 12 v 2002, gravelly slopes, *Kandemir* 3555, Ir.-Tur.

*Cerasus microcarpa* (C.A.Meyer) Boiss. subsp. *microcarpa*

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, gravelly places, *Kandemir* 3625; above Pi'kida'ı village, 2421 m, 39°41'29" N, 39°43'07" E, 24 v 2003, gravelly slopes, *Kandemir* 5146.

*Cotoneaster integerrimus* Medik.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, colluvial soil, *Kandemir* 4271; Handere, 1842 m, 39°48'56" N, 39°33'51" E, 01 viii 2004, roadside, *Kandemir* 6670.

\**Cotonaster meyeri* Pojark

Erzincan: Keşiş D., above Yaylalar village, 2100 m, 39°50'56" N, 39°47'63" E, 29 vi 2002, stony places, *Kandemir* 4067.

*Crateagus aronia* (L.) Bosc. var. *aronia*

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky, *Kandemir* 3946; Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3912.

*Crateagus mongyna* Jacq. subsp. *mongyna*

Erzincan: Dağınık D., above Çakırman village, 1700 m, 02 vi 2002, roadside, rocky, *Kandemir* 3713; Keşiş D., above Üzümlü, around irrigation pond, 1740 m, 25 v 2002, *Kandemir* 3644.

*Filipendula ulmaria* (L.) Maxim.

Erzincan: Pöske D., 2142 m, 10 vii 2003, watery places, *Kandemir* 5492, Euro.-Sib.

*Filipendula vulgaris* Moench

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6226, Euro.-Sib.

*Geum rivale* L.

Erzincan: Keşiş D., above Üzümlü, 2200 m, 16 vi 2002, damp places, *Kandemir* 3990; Keşiş D., Tekçam, 2265 m, 07 vi 2003, damp places, *Kandemir* 5200.

*Malus sylvestris* Miller subsp. *orientalis* (A.Uglitzkich) Browicz var. *mitis* (Wallr.) Mansf.

Erzincan: Keşiş D., above Üzümlü, 2000 m, 23 viii 2002, *Kandemir* 5069; Keşiş D., Tekçam, 2200 m, 39°44'63" N, 39°47'73" E, 07 vi 2003, in valley, *Kandemir* 5159.

*\*Potentilla anatolica* Pe'men

Erzincan: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, forest side, *Kandemir* 5237; Keşiş D., Turna River, 2162 m, 39°51'89" N, 39°43'58" E, 26 vi 2004, pasture-land, *Kandemir* 6203, End., Ir.-Tur.

*Potentilla argentea* L.

Erzincan: Kolçekmez D., Çamlık, 2000 m, 23 vii 2004, under forest, *Kandemir*, 6543, Gümüşhane: Akdağ, 1799 m, 39°52'27" N, 39°26'97" E, 27 v 2004, slopes, *Kandemir* 6601.

*Potentilla aucheriana* Th.Wolf

Erzincan: Keşiş D., Yedigöller, 2600 m, 17 vii 2002, pasture-land, *Kandemir* 4924; Keşiş D., Tekçam, 2400 m, 39°44'32" N, 39°47'35" E, 07 vi 2003, pasture-land, *Kandemir* 5181, Ir.-Tur.

*\*Potentilla bifurca* L.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, pasture-land, *Kandemir* 4211; Dağınık D., Kızlar Castle, 1940 m, 39°49'92" N, 39°35'52" E, 17 vii 2004, steppe, *Kandemir* 6482.

*Potentilla crantzii* (Crantz) G.Beck ex Fritsch var. *ternata* (Blytt) Pe'men

Erzincan: Keşiş D., Yedigöller 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, stony slopes, *Kandemir* 6291.

*Potentilla geranoides* Willd.

Gümüşhane: Sipikör Pass, 2400 m, 13 vii 2003 *Kandemir* 5552, Ir.-Tur.

*\*Potentilla pulvinaris* Fenzl

Erzincan: Keşiş D., 2300 m, 10 vi 2002, among rocks, *Kandemir* 3113, End.

*Potentilla recta* L.

Erzincan: Keşiş D., Yedigöller, 2200 m, 29 vi 2002, streamside, *Kandemir* 4078.

*Potentilla reptans* L.

Erzincan: Dağınık D., around Çakırman village, 1350 m, 22 vi 2003, pasture-land, *Kandemir* 5305; Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, damp meadow, *Kandemir* 4154, Gümüşhane: Sipikör Pass, 2300 m, 19 v 2002, pasture-land, *Kandemir* 3586.

*Potentilla speciosa* Willd. subsp. *speciosa*

Erzincan: Sipikör D., 2000 m, 20 ix 2003, on rocks, *Kandemir* 5891; Keşiş D.,

above Üzümlü, Çamlık, 2440 m 39°45'54" N, 39°44'38" E, 15 vii 2004, among rocks, *Kandemir* 6449. *Potentilla umbrosa* Stev. ex Bieb.

Erzincan: Keşiş D., Yedigöller, 2400 m, 27 vii 2002, pasture-land, *Kandemir* 4953; Keşiş D., above Üzümlü, 2500 m, 20 vii 2002, pasture-land, *Kandemir* 4764; Kolçekmez D., Çamlık, 2000 m, 13 vi 2003, damp places, *Kandemir* 5593, Gümüşhane: Sipikör D., South of Kovalık Pass, 2386 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, pasture-land, *Kandemir* 5359, Euro.-Sib.

*\*Prunus spinosa* L. subsp. *dasyphylla* (Schur) Domin

Erzincan: Pöske D., 1950 m, 10 vii 2003, *Populus tremula* forest, *Kandemir* 5509; Keşiş D., Tekçam, 2240 m, 39°44'62" N, 39°47'70" E, 07 vi 2003, flowing slopes, *Kandemir* 5166, Euro.-Sib.

*Rosa canina* L.

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3906; Dağınık D., Çakırman village, in valley, 1450 m, 24 vi 2002, roadside, *Kandemir* 4045; Keşiş D., above Üzümlü, 2300 m, 20 vii 2002, slopes, *Kandemir* 4765; Keşiş D., above Yaylalar village, 2300 m, 29 vi 2002, streamside, rocky, *Kandemir* 4070.

*Rosa cinnamomea* L. var. *psiformis* Christ

4766, Erzincan: Keşiş D., above Yaylalar village, 2300 m, 20 vii 2002, slopes, *Kandemir* 4886, End. Ir-Tur.

*Rosa dumalis* Bechst. var. *boissieri* (Crepin) Ö.Nilsson

Erzincan: Sipikör Pass, 2390 m, 39°52'13" N, 39°33'96" E, 08 vii 2004, limestone, *Kandemir* 6381.

*Rosa hemisphaerica* J.Herrm.

Erzincan: Keşiş D., Tekçam, 2400 m, 39°44'32" N, 39°47'35" E, 07 vi 2003, in forest, *Kandemir* 5188, Gümüşhane: Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, forest side, *Kandemir* 6632, Ir.-Tur.

*Rosa montana* Chaix subsp. *woronowii* (Lonacz.) Ö.Nilsson

Erzincan: Dağınık D., Çakırman village, 1700 m, 20 vi 2002, roadside, *Kandemir* 3715; Keşiş D., Tekçam, 2432 m, 39°45'05" N, 39°48'05" E, 20 vii 2003, roadside, *Kandemir* 5619, Gümüşhane: Akdağ, 2133

m, 39°52'64" N, 39°28'18" E, 25 vii 2004, woodland, *Kandemir* 6580.

*\*Rosa pimpinellifolia* L

Gümüşhane: Sipikör D., around Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, pasture-land, *Kandemir* 6170, Euro.-Sib.

*Rosa pulverulenta* Bieb.

Erzincan: Dağınık D., above Ekşisu, 2900 m, 39°45'19" N, 39°42'97" E, 28 viii 2004, slopes, *Kandemir* 6837.

*Rubus saxatilis* L.

Erzincan: Keşiş D., around Yedigöller, 2400 m, 27 vii 2002, damp slopes, *Kandemir* 4942, Gümüşhane: Sipikör D. Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 07 viii 2004, stony places, *Kandemir* 6724.

*Sanguisorba armena* Boiss.

Erzincan: Sakaltutan, 2428 m, 39°53'69" N, 39°08'09" E, 06 viii 2004, damp meadow, *Kandemir* 6697; Kara D., 2000 m, Hub.-Mor. 15120, End., Ir.-Tur.

*Sanguisorba minor* Scop. subsp. *minor*

Erzincan: Keşiş D., Tekçam, 2200 m, 06 vii 2002, stony, *Kandemir* 4726; Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky, *Kandemir* 3966.

*Sanguisorba officinalis* L.

Erzincan: Kolçekmez D., 2110 m, 13 vii 2003, under forest, watery places, *Kandemir* 5594, Gümüşhane: Sipikör D., 2204 m, 19 viii 2003, in valley, streamside, *Kandemir* 5790.

*Sorbus kusnetzowii* Zinserl.

Gümüşhane: Pöske D., 2134 m, 39°53'85" N, 39°32'97" E, 27 vi 2004, in forest, *Kandemir* 6275.

*Sorbus umbellata* (Desf.) Fritsch var. *cretica* (Lindley) Schneider

Erzincan: Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, streamside, stony places, *Kandemir* 4092, Gümüşhane: Pöske D., 2142 m, 10 vii 2003, forest, *Kandemir* 5491.

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

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky slopes, *Kandemir* 3944, Erzincan: Keşiş D., Tekçam, 3269 m, 20 vii 2003, slopes, *Kandemir* 5649.



## RUBIACEAE

\**Asperula capitellata* Hausskn. & Bornm. ex Bornm.

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, pasture-land, *Kandemir* 5299.

*Asperula glomerata* (Bieb.) Griseb. subsp. *condensata* (Ehrend.) Ehrend. var. *condensata*

Erzincan: Keşiş D., 2038 m, 39°48'03" N, 39°84'49" E, 17 vii 2004, flowing slopes, *Kandemir* 6490; Dağınık D., below Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3760; Keşiş D. Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir* 4688, Ir.-Tur.

*Asperula glomerata* (Bieb.) Griseb. subsp. *condensata* (Ehrend.) Ehrend. var. *filiformis* Bornm.

Erzincan: Keşiş D., Tekçam, 2800 m, 06 vii 2002, flowing slopes, *Kandemir* 4261; Keşiş D., around Yedigöller, 2600 m, 27 vii 2002, *Kandemir* 4908, Ir.-Tur.

*Asperula gracilis* C.A.Meyer

Erzincan: Keşiş D., above Üzümlü, 3040 m, 39°45'78" N, 39°42'85" E, 28 viii 2004, flowing soil, *Kandemir* 6825; Keşiş D., Yedigöller, 2700 m, 27 vii 2002, slopes, *Kandemir* 4917; Dağınık D., around Çakırman village, 1500 m, 26 vi 2002, sloping side, *Kandemir* 4034, Eux.

*Asperula laxiflora* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2450 m, 20 vii 2002, slopes, *Kandemir* 4855; Pöske D., around Ahmetli village, 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, gravelly slopes, *Kandemir* 5521, Eux.

*Asperula pestalozzea* Boiss.

Erzincan: Dağınık D., around Çakırman village, 1350 m, 22 vi 2003, steppe, *Kandemir* 5293, End., Ir.-Tur.

\**Asperula woronowii* Krecz.

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, stony places, *Kandemir* 4149; Keşiş D., above Üzümlü, 2450 m, 20 vii 2002, stony places, *Kandemir* 4842; Kolçekmez D., 1993 m, 39°48'46" N, 39°31'23" E, 29 vi 2003, stony places, *Kandemir* 5405, End. Eux.

*Cruciata taurica* (Willd.) Ehrend.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3762, Ir.-Tur.

\**Galium boreale* L.

Erzincan: Keşiş D., above Üzümlü, 1700 m, 16 vi 2002, roadside, *Kandemir* 3982; Dağınık D., Çakırman village, 1700 m, 02 vi 2002, rocky places, *Kandemir* 3724.

*Galium cornigerum* Boiss. & Hausskn.

Erzincan: Keşiş D., above Yaylalar village, 2410 m, 29 vi 2002, flowing slopes, *Kandemir* 4106, End. Ir.Tur.

*Galium incanum* Sm. subsp. *elatus* (Boiss.) Ehrend.

Erzincan: Keşiş D., Aksu River, 2728 m, 39°49'15" N, 39°42'40" E, 19 ix 2004, serpentine, *Kandemir* 6851; Pöske D., North-west of Ahmetli village, 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, rocky, *Kandemir* 5530; Keşiş D., Üzümlü, 2600 m, 20 vii 2002, stony slopes, *Kandemir* 4852, Ir.-Tur.

*Galium margaceum* Ehrend. & Schönb.-Tem

Erzincan: Dağınık D., around Çakırman village, 1470 m, 26 vi 2002, slopes, *Kandemir* 4027; Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, sloping side, *Kandemir* 4823, End.

*Galium mite* Boiss. & Hohen.

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir* 4687, Ir.-Tur.

*Galium papilliferum* Ehrend. & Schönb.-Tem.

Erzincan: Keşiş D., above Üzümlü, 2700 m, 20 vii 2005, flowing slopes, *Kandemir* 5835; Keşiş D., Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 11 ix 2005, flowing slopes, *Kandemir* 7217, End.

*Galium verum* L. subsp. *verum*

Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, watery places, *Kandemir* 5741, End.

## RUTACEAE

*Haplophyllum armenum* Spach

Erzincan: Sipikör Pass, 2169 m, 18 vii 2004, serpentine, *Kandemir* 6524; from Erzincan to Kelkit, around Yalnızbağ village,

1560 m, 39°51'06" N, 39°22'70" E, 14 vi 2003, in valley, *Kandemir* 5254; Işıkpınar, 1275 m, 26 v 2003, flowing slopes, *Kandemir*, 5156, End.

## SALICACEAE

*Populus tremula* L.

Erzincan: Keşiş D., Tekçam, 2235 m, 39°44'62" N, 39°47'70" E, 07 vi 2003, in valley, *Kandemir* 5160.

*Salix alba* L.

Keşiş D., above Üzümlü, 1740 m, 25 v 2002, streamside, *Kandemir* 3643, Euro.-Sib.

\**Salix pentandra* L.

Gümüşhane: Pöske D., around Yeni yol village, 2233 m, 39°53'97" N, 39°22'51" E, 26 iii 2003, streamside, *Kandemir* 5697, Euro.-Sib.

*Salix pseudodepressa* A.Skv.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1250 m, 26 v 2002, streamside, *Kandemir* 3686, Eux.

\**Salix wilhelmsiana* Bieb.

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1250 m, 26 v 2002, streamside, *Kandemir* 33685, Ir.-Tur.

## SANTALACEAE

*Thesium arvense* Horvátovszky

Erzincan: Keşiş D., Yedigöller, 2200 m, 27 vii 2002, slopes, *Kandemir* 4967, Euro.-Sib.

*Thesium aureum* Jaub. & Spach

Erzincan: Kolçekmez D., 2066 m, 39°48'84" N, 39°31'72" E, 09 v 2004, volcanic slopes, *Kandemir* 5962; above Üzümlü, 3038 m, 39°45'86" N, 39°42'63" E, 28 viii 2004, serpentine, *Kandemir* 6821; Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, stony places, *Kandemir* 6321, Gümüşhane: Sipikör D., 2310 m, 39°53'57" N, 39°36'05" E, 26 vi 2004, gravelly places, *Kandemir* 6219, End., Ir.-Tur.

## SAXIFRAGACEAE

\**Saxifraga exarata* Vill. var. *adenophora* (C.Koch) Engler & Irmscher

Erzincan: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, under rocks, *Kandemir* 6809.

*Saxifraga kotschy* Boiss.

Gümüşhane: Sipikör D., 2500 m, 19 v 2002, rock crevices, *Kandemir* 3592.

*Saxifraga moschata* Wulfen

Erzincan: Esence D., Aksu River, 2728 m, 39°49'15" N, 39°42'40" E, 19 ix 2004, serpentine, *Kandemir* 6848, Euro.-Sib.

*Saxifraga paniculata* Miller subsp. *paniculata*

Erzincan: Keşiş D., Tekçam, rocky, 2300 m, 06 vii 2002, above rocks, *Kandemir* 4685; Keşiş D. above Üzümlü, Çamlık, 2440 m, 39°45'54" N, 39°44'38" E, 15 vii 2004, on limestone, *Kandemir* 6450, Euro.-Sib.

*Saxifraga sibirica* L. subsp. *mollis* (Sm.) Matthews

Erzincan: Keşiş D., Tekçam, Buzhane, 20 vii 2003, rocky, *Kandemir* 5637.

#### SCROPHULARIACEAE

*Anarrhinum orientale* Benth

Erzincan: Üzümlü, Bayırbağ, 1300 m, 06 vii 2002, stony steppe, *Kandemir* 4739.

*Bunaea trifida* (Vahl) C.A.Meyer

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, steppe, *Kandemir* 3667, Ir.-Tur.

*Euphrasia pectinata* Ten.

Erzincan: Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, streamside, *Kandemir* 4957; Keşiş D., above Üzümlü, 2000 m, 23 viii 2002, damp meadow, *Kandemir* 5076, Euro.-Sib.

*Linaria chalepensis* (L.) Miller var. *chalepensis*

Erzincan: Keşiş D., above Üzümlü, 1665 m, 25 v 2002, stony places, *Kandemir* 3669, Medit.

*Linaria corifolia* Desf.

Erzincan: Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6499, End., Ir.-Tur.

*Linaria genistifolia* (L.) Miller subsp. *linifolia* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, slopes, *Kandemir* 4821; Dağınık D., around Çakırman village, 1350 m, 22 vi 2003, flowing slopes, *Kandemir* 5315; Kolçekmez D., Çamlık, 2000 m, 13 vi 2003,

roadside, colluvial soil, *Kandemir* 5597. Gümüşhane: Pöske D., North-west of Yeniyoğ village, 2100 m, 26 vii 2003, forest side, slopes, *Kandemir* 5702,

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

Erzincan: Keşiş D., above Üzümlü, 1800 m, 20 vii 2002, slopes, *Kandemir* 4867, Gümüşhane: Sipikör D., 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, slopes, *Kandemir* 5794, Ir.-Tur.

\**Linaria kurdica* Boiss. & Hohen subsp. *aucheri* (Boiss.) Davis

Erzincan: Keşiş D., above Ekşisu, 2250 m, 10 viii 2002, damp meadow, *Kandemir* 5018, Ir.-Tur.

*Melampyrum arvense* L. var. *arvense*

Erzincan: Kolçekmez D., Çamlık, 2000 m, 13 vii 2003, under forest, *Kandemir* 5605.

\**Odontites glutinosa* (Bieb.) Benth

Erzincan: Keşiş D., above Ekşisu, 1600 m, 10 viii 2002, damp meadow, *Kandemir* 5015.

\**Odontites verna* (Bernardi) Dumort

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, streamside, *Kandemir* 4006; Dağınık D., Kızlar Castle, 2055 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, damp meadow, *Kandemir* 5848, Euro.-Sib.

\**Pedicularis cadmea* Boiss.

Erzincan: Keşiş D., above Üzümlü, Çamlık, 2440 m, 39°45'54" N, 39°44'38" E, 15 vii 2004, rocks, *Kandemir* 6451, End., Medit..

*Pedicularis caucasica* Bieb.

Erzincan: Kovalık Pass, 2393 m, 39°51'86" N, 39°38'62" E, 09 v 2004, alpine meadow, *Kandemir* 5955, Gümüşhane: Sipikör D., 2200 m, 19 v 2002, stony places, *Kandemir* 3596, Hyrc.-Eux.

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

Erzincan: Keşiş D., above Üzümlü, 2500 m, 08 vi 2002, rocky, *Kandemir* 3792.

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

Erzincan: Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, streamside, damp meadow, *Kandemir* 4066.

*Pedicularis pontica* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2500 m, 08 vi 2002, rocky, *Kandemir* 3791.

*Pedicularis wilhelmsiana* Fischer ex Bieb.

Gümüşhane: Sipikör D., 2138 m, 39°54'58" N, 39°39'98" E, 01 viii 2004, under forest, *Kandemir* 6634, Eux.

*Rhiantus angustifolius* C.C.Gmelin subsp. *grandiflorus* (Wallr.) D.A.Webb

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, watery places, *Kandemir* 6146.

\**Scrophularia depauperata* Boiss.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, roadside, *Kandemir* 4186; above Karakaya village, 2000 m, 06 vii 2002, under forest, *Kandemir* 4736, End.

*Scrophularia libatonica* Boiss. subsp. *armena* R.Mill

Erzincan: Keşiş D., above Üzümlü, 2500 m, 39°44'26" N, 39°42'09" E, 08 vi 2002, under rocks, *Kandemir* 3824; Dağınık D., above Çakırman village, 1600 m, 20 vi 2002, under rocks, *Kandemir* 3769, End., Ir.-Tur.

\**Scrophularia libatonica* Boiss. var. *cappadocica* R.Mill

Erzincan: Keşiş D., above Üzümlü, 2200 m, 10 vi 2001, under rocks, *Kandemir* 3119, End., Ir.-Tur.

*Scrophularia libatonica* Boiss. var. *libatonica*

Erzincan: Keşiş D., above Üzümlü, 2750 m, 20 vii 2002, rocky slopes, *Kandemir* 4789.

*Scrophularia libatonica* Boiss. var. *pontica* R.Mill

Erzincan: Dağınık D., Kızlar Castle, 2200 m, 22 vi 2003, under rocks, *Kandemir* 5333, End., Ir.-Tur.

*Scrophularia luridiflora* Fisch. & Mey

Erzincan: Pöske D., 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, rocks, *Kandemir* 5524, End., Ir.-Tur.

*Scrophularia nodosa* L.

Gümüşhane: Sipikör D., 2370 m, 39°53'24" N, 39°30'17" E, 09 viii 2003, damp meadow, *Kandemir* 5740, Euro.-Sib.

*Scrophularia olympica* Boiss.

Erzincan: Keşiş D., above Üzümlü, 2750 m, 20 vii 2002, slopes, *Kandemir* 4788; Keşiş D., Tekçam, 2240 m, 39°44'62" N, 39°47'70" E, 07 vi 2003, flowing slopes, *Kandemir* 5169, Eux.

*Scrophularia xanthoglossa* Boiss. var. *deciapiens* (Boiss. & Kotschy) Boiss.

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, roadside, *Kandemir* 3672, Ir.-Tur.

*Verbascum apiculatum* Hub.-Mor.

Erzincan: Keşiş D., above Üzümlü, 1665 m, 25 v 2002, slopes, *Kandemir* 3656.

*Verbascum cheiranthifolium* Boiss. var. *asperulum* (Boiss.) Murb.

Erzincan: Keşiş D., Yedigöller, 2400 m, 27 vii 2002, roadside, *Kandemir* 4907, End.

*Verbascum cheiranthifolium* Boiss. var. *cheiranthifolium*

Erzincan: Keşiş D., Bayırbağ, 1500 m, steppe, 06 vii 2002, slopes, *Kandemir* 4755.

*Verbascum krauseanum* Murb.

Erzincan: Keşiş D., above Üzümlü, 2277 m, 39°44'26" N, 39°42'09" E, 15 vii 2004, slopes, *Kandemir* 6434, End., Ir.-Tur.

*Verbascum oocarpum* Murb.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, in valley, slopes, *Kandemir* 4051; Kolçekmez D., 1900 m, 08 vii 2004, roadside, *Kandemir* 6377; Dağınık D., around Çakırman village, 1300 m, 01 ix 2005, slopes, *Kandemir* 7214, End., Ir.-Tur.

\**Verbascum oreophilum* C.Koch var. *oreophilum*

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 27 vii 2004, roadside, *Kandemir* 6567, End., Ir.-Tur.

*Verbascum phoeniceum* L.

Erzincan: Keşiş D., Turna River, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, stony slopes, *Kandemir* 6248.

*Verbascum pyramidatum* Bieb.

Erzincan: Pöske D., 2066 m, 39°53'55" N, 39°22'77" E, 27 vi 2004, open *Quercus* areas, *Kandemir* 6272, Hirc. Eux.

*Verbascum wiedemannianum* Fisch. & Mey.

Gümüşhane: around Akdağ village, 1680 m, 06 vi 2004, roadside, *Kandemir* 6037, End., Ir.-Tur.

\**Veronica armena* Boiss. & Huet

Erzincan: Keşiş D., Tekçam, 2200 m, 06 vii 2002, shady places, *Kandemir* 4724, Gümüşhane: 14 vi 2003, Pöske D., around Yeni Yol village, 2010 m, 39°53'84" N, 39°23'46" E, *Quercus* forest, *Kandemir* 5245, Ir.-Tur.

*Veronica beccabunga* L.

Erzincan: Keşiş D., above Üzümlü, 2200 m, 16 vi 2002, watery places, *Kandemir* 3988.

*Veronica cymbalaria* Bodard

Gümüşhane: Sipikör D., 2400 m, 13 vii 2003, roadside, *Kandemir* 5538, Medit.

*Veronica gentianoides* Vahl

Erzincan: Keşiş D. Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, damp meadow, *Kandemir* 6302, Gümüşhane: Sipikör D., 2496 m, 39°53'04" N, 39°32'54" E, 08 vii 2004, pasture-land, *Kandemir* 6348, Hirc.-Eux.

\**Veronica hispidula* Boiss. & Huet subsp. *hispidula*

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, pasture-land, *Kandemir* 3846, Erzincan: Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, rocky, *Kandemir* 3921, Ir.-Tur.

*Veronica lysimachioides* Boiss.

Erzincan: Dağınık D., 2100 m, 39°40'60" N, 39°38'96" E, 27 viii 2003, damp meadow, *Kandemir* 5865, End.

*Veronica montbretii* M.A.Fischer

Erzincan: Keşiş D. Yedigöller, 3124 m, 39°48'86" N, 39°44'95" E, 03 vii 2004, serpentine, flowing slopes, *Kandemir* 6310, End., Ir.-Tur.

*Veronica multifida* L.

Erzincan: Keşiş D. Yedigöller, 2600 m, 27 vii 2002, roadside, *Kandemir* 4921, End.

*Veronica orientalis* Miller subsp. *orientalis*

Erzincan: Keşiş D. Yedigöller, 2759 m, 39°48'94" N, 39°45'35" E, 03 vii 2004, stony slopes, *Kandemir* 6285, Gümüşhane:

Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, subalpine meadow, *Kandemir* 6112.

*Veronica serpyllifolia* L.

Erzincan: Keşiş D., Yedigöller, 3071 m, 39°48'18" N, 39°39'98" E, 16 vii 2005, damp meadow, *Kandemir* 7067.

\**Veronica triloba* (Opiz) Kerner

Erzincan: Keşiş D., above Üzümlü, 1540 m, 05 v 2002, pasture-land, *Kandemir*, 3540.

## SOLANACEAE

*Hyoscyamus reticulatus* L.

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, slopes, *Kandemir* 3679, Ir.-Tur.

## TAMARICACEAE

\**Tamarix parviflora* DC.

Erzincan: Dağınık D., around Çakırman village, 1500 m, 02 vi 2002, flowing slopes, *Kandemir* 3752.

*Tamarix smyrnensis* Bunge

Erzincan: Dağınık D., East of Çakırman village, in valley, 1470 m, 26 vi 2002, streamside, *Kandemir* 4048.

*Myricaria germanica* (L.) Desv.

Erzincan: Bayırbağ, 1280 m, 26 v 2002, slopes, *Kandemir* 3700.

## THYMELACEAE

*Daphne oleoides* Schreber subsp. *kurdica* Bornm.

Erzincan: Keşiş D., above Üzümlü, 08 vi 2002, 2400 m, shady places, *Kandemir*, Ir.-Tur.

*Daphne oleoides* Schreber subsp. *oleoides*

Erzincan: Keşiş D., above Yaylalar village, 2300 m, 29 vi 2002, stony places, *Kandemir* 4064.

## ULMACACEAE

*Celtis glabrata* Steven ex Planchon

Erzincan: Dağınık D., around Geyikli village, 1500 m, 08 vi 2002, gravelly places, *Kandemir* 3888.

*Ulmus glabra* Hudson

Erzincan: Keşiş D., Üzümlü, around Çardaklı village, 1300 m, 24 v 2003, streamside, *Kandemir* 5130, Euro.-Sib.

**URTICACEAE**

*Parietaria judaica* L.

Erzincan: Dağınık D., around Çakırman village, 1600 m, 02 vi 2002, rocky, *Kandemir* 3761.

*Urtica dioica* L.

Erzincan: Keşiş D., Üzümlü, above, Karakaya village 2000 m, 06 vii 2002, shady places, *Kandemir* 4733, Euro.-Sib.

**VALERIANACEAE**

*Valeriana alpestris* Stev.

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir* 4704, Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, forest side, *Kandemir* 6408, Eux.

*Valeriana dioscoridis* Sm.

Erzincan: Above Pi'kida'ı village, 2348 m, 24 v 2003, gravelly slopes, *Kandemir* 5120, Medit.

*Valeriana leucophaea* DC.

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3629; Keşiş D., Tekçam, 2240 m, 39°44'63" N, 39°47'73" E, 07 vi 2003, damp places, *Kandemir* 5196, Eux.

*Valeriana saxicola* C.A.Meyer

Erzincan: Keşiş D., above Üzümlü, 2900 m, 39°45'19" N, 39°42'97" E, 29 viii 2004, stony places, *Kandemir* 6840, Eux.

*Valeriana sisymbriifolia* Vahl

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, rocky, *Kandemir* 3962, Ir.-Tur.

**VERBENACEAE**

*Verbena officinalis* L.

Erzincan: Dağınık D., East of Kızlar Castle, 2055 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, watery places, *Kandemir* 5855.

**VIOLACEAE**

*Viola occulta* Lehm.

Erzincan: Keşiş D., around Ekşisu, 2000 m, 05 v 2002, pasture-land, *Kandemir* 3515; Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3834.

*Viola odontocalycina* Boiss.

Erzincan: Keşiş D., Tekçam, 2800 m, 06 vii 2002, melting snow bank, *Kandemir* 4220; Keşiş D., Yedigöller, 3016 m, 39°48'00" N, 39°45'40" E, 03 vii 2004, pasture-land, *Kandemir* 6304, End.

*Viola parvula* Tineo

Erzincan: Keşiş D., around Aygır Lake, 2700 m, 10 vi 2001, pasture-land, *Kandemir* 3167.

**MONOCOTYLEDONES**

**ARACEAE**

\**Arum elongatum* Steven subsp. *detruncatum* (C.A.Meyer ex Schott) Riedl

Erzincan: Üzümlü, Bayırbağ, 1280 m, 25 v 2002, rocks, *Kandemir* 3702, Ir.-Tur.

**CYPERACEAE**

*Carex nigra* (L.) Reichard subsp. *nigra*

Keşiş D., Tekçam, 2400 m, 39°44'32" N, 39°47'35" E, 07 vi 2003, watery places, *Kandemir* 5179.

*Carex tomentosa* L.

Erzincan: Sipikör D., 2300 m, 09 viii 2003, watery places, *Kandemir* 5744, Euro.-Sib.

\**Eriophorum latifolium* Hoppe

Erzincan: Kolçekmaz D., Çamlık, 2050 m, 29 vi 2003, watery places, *Kandemir* 5390.

**IRIDACEAE**

*Crocus biflorus* Miller subsp. *tauri* (Maw) Matthew

Erzincan: Sakaltutan Pass, 2170 m, 39°52'80" N, 39°08'22" E, 30 iv 2005, side of snow, *Kandemir* 6879, Gümüşhane: Sipikör D., Kovalık Pass, 2393 m, 39°51'86" N, 39°38'62" E, 09 v 2004, watery places, *Kandemir* 5947, Ir.-Tur.

*Crocus kotschyanus* C.Koch subsp. *suworivianus* (C.Koch) Matthew

Erzincan: Sipikör D., 2344 m, 39°53'02" N, 39°36'08" E, 20 ix 200, alpine meadow, *Kandemir* 5893; Keşiş D., Aksu River, 2589 m, 39°49'70" N, 39°42'23" E, 01 x 2004, pasture-land, *Kandemir* 6860.

*Gladiolus atroviolecaus* Boiss.

Erzincan: Keşiş D., Tekçam, 2400 m, 20 vii 2003, salty slopes, *Kandemir* 5645; from

Erzincan to Kelkit, Davarlı, 1570 m, 26 vii 2003, around irrigation canal, *Kandemir* 5720; Pöske D., around Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 14 vi 2003, damp meadow, *Kandemir* 5229, Gümüşhane: Sipikör, Devekorusu, 2386 m, 39°51'48" N, 39°37'33" E, damp meadow, *Kandemir* 5366, Ir.-Tur.

*Iris caucasica* Hoff. subsp. *taurica* B.Mathew

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, rocky, *Kandemir* 3804, Ir.-Tur.

*Iris danfordiae* (Baker) Boiss.

Erzincan: Sipikör Pass, 1900 m, 39°52'47" N, 39°34'03" E, 23 v 2004, roadside flowing slopes, *Kandemir* 6004, End., Ir.-Tur.

*Iris kerneriana* Ascherson & Sint. ex Baker

Erzincan: Dağınık D., above Kızlar Castle, 2300 m, 22 vi 2003, stony, shady places., *Kandemir* 5334, Gümüşhane: Pöske D., 2134 m, 39°53'85" N, 39°22'97" E, 27 vi 2004, *Quercus* areas, *Kandemir* 6264, End., Euro.-Sib.

*Iris persica* L.

Erzincan: Erzincan-Kelkit, Davarlı, 1500 m, 39°49'50" N, 39°23'67" E, 12 iv 2003, streamside, sandy soil, *Kandemir* 5101, Ir.-Tur.

**JUNCACEAE**

\**Juncus alpinus* Vill. subsp. *alpinus*

Erzincan: Dağınık D., Kızlar Castle, 2000 m, 27 viii 2003, streamside, *Kandemir* 5863.

*Juncus articulatus* L.

Erzincan: Keşiş D., above Üzümlü, 2200 m, 10 viii 2002, streamside, *Kandemir* 5007.

\**Juncus conglomeratus* L.

Erzincan: Kolçekmez D., Çamlık, 2000 m, 09 v 2003, streamside, *Kandemir* 5780.

*Juncus inflexus* L.

Erzincan: Sipikör D., 2153 m, 39°51'70" N, 39°33'03" E, 03 ix 2003, watery places, *Kandemir* 5882.

**JUNCAGINACEAE**

*Triglochin maritima* L.

Erzincan: Ağılözü, 1508 m, 39°21'35" N, 39°28'29" E, 01 x 2004, salty marshes,

*Kandemir* 6861, Gümüşhane: Sipikör D., 2426 m, 39°53'09" N, 39°34'47" E, 19 vi 2004, watery places, *Kandemir* 6186.

#### LILIACEAE

\**Allium akaka* S.G.Gmelin

Erzincan: Dağınık D., above Kızlar Castle, 1900 m, 22 vi 2003, flowing slopes, *Kandemir* 5341, Ir.-Tur.

*Allium armenum* Boiss. & Kotschy

Erzincan: Pöske D., West of Ahmetli village, 2350 m, 39°54'39" N, 39° 21'01" E, 26 vii 2003, steppe, *Kandemir* 5675, Gümüşhane: Sipikör D., South of Güllüce village, 2155 m, 39°54'90" N, 39°39'70" E, 01 viii 2004, steppe, *Kandemir* 6614, End., Ir.-Tur.

*Allium atroviolaceum* Boiss.

Erzincan: Kolçekmez D., 1787 m, 39°47'28" N, 39°30'72" E, 23 vii 2004, steppe, *Kandemir* 6534.

*Allium cardiostemon* Fisch. & Mey.

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, among *Juniperus*, *Kandemir* 4721; Dağınık D., above Kızlar Castle, 1900 m, 22 vi 2003, rocky, *Kandemir* 5340; Keşiş D. Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, gravelly slopes, *Kandemir* 6231, Gümüşhane: Between Sipikör and Akdağ, 2268 m, 39°53'89" N, 39°33'57" E, 08 vii 2004, stony slopes, *Kandemir* 6399, Ir.-Tur.

*Allium decipiens* Fischer ex Schultes & Schultesfil.

Erzincan: Sipikör D., 2350 m, steppe, *Kandemir* 5399, Gümüşhane: Sipikör D., around Karacaören village, 1778 m, 39°57'33" N, 39°32'64" E, 02 vi 2004, slopes, *Kandemir* 6035, Eux.

*Allium dictyoprasum* C.A.Meyer ex Kunth,

Erzincan: Keşiş D., above Ekşisu, 1400 m, slopes, *Kandemir* 4992; Dağınık D., Kızlar Castle, 1950 m, 39°47'08" N, 39°35'96" E, 27 viii 2003, shady places, *Kandemir* 5849; Keşiş D., Yedigöller, above Yaylalar village, 2165 m, 39°50'74" N, 39°47'78" E, 07 viii 2004, steppe, *Kandemir* 6732, Ir.-Tur.

*Allium flavum* L. subsp. *tauricum* (Beser ex Reichb.) Stearn var. *tauricum*

Erzincan: From Erzincan to Kelkit, Davarlı, 1490 m, 26 vii 2003, streamside,

sandy soil, *Kandemir* 5723; Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6503; Kolçekmez D., 1787 m, 39°47'28" N, 39°30'72" E, 23 vii 2004, steppe, *Kandemir* 6540, Medit.

\**Allium fuscoviolaceum* Fomin

Erzincan: Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6500, Ir.-Tur.

*Allium kunthianum* Vved.

Gümüşhane: Gümüşhane: Sipikör D., Yerebatan, 2219 m, 39°53'57" N, 39°35'37" E, 20 viii 2004, limestone, *Kandemir* 6810, Ir.-Tur.

*Allium macrochaetum* Boiss. & Hausskn.,

Erzincan: Keşiş D., above Üzümlü, 2100 m, 20 vii 2002, flowing slopes, *Kandemir* 4827.

*Allium nevsehirense* Koyuncu & Kollmann

Erzincan: Kolçekmez D., 1600 m, 09 viii 2003, steppe, *Kandemir* 5730, End., Ir.-Tur.

*Allium pustulosum* Boiss. & Hausskn.

Erzincan: Dağınık D., around Kızlar Castle, 1628 m, 39°46'34" N, 39°34'91" E, 17 vii 2004, steppe, *Kandemir* 6501, Ir.-Tur.

*Allium schoenoprasum* L.

Erzincan: Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, streamside, in meadow, *Kandemir* 4073; Sakaltutan, 2428 m, 39°53'69" N, 39°08'09" E, 06 viii 2004, steppe, *Kandemir* 6694; Yalnızbağ, 1445 m, 39°48'33" N, 39°24'73" E, 14 vi 2003, slopes, *Kandemir* 5222; above Üzümlü, 2661 m, 39°44'86" N, 39°42'39" E, 15 vii 2004, rocky, *Kandemir* 6473.

*Allium sintenisii* Freyn

Erzincan: Keşiş D., Turna River barrage bed, 2143 m, 39°51'37" N, 39°43'66" E, 26 vi 2004, pasture-land, *Kandemir* 6224; Sipikör Pass, 2554 m, 39°52'57" N, 39°34' 52" E, 08 vii 2004, pasture-land, *Kandemir* 6395, End., Ir.-Tur.

*Allium sivasicum* Özhatay & Kollmann

Erzincan: Dağınık D., around Çakırman village, 22 vi 2003, sandy places, *Kandemir* 5274, End., Ir.-Tur.

*Allium szovitsii* Regel

Erzincan: Sipikör D., 2300 m, 03 viii 2005, stony places, *Kandemir* 5542; around

Karadağ Radio Linkage Station, 2639 m, 39°54'03" N, 39°08'16" E, 06 viii 2004, stony places, *Kandemir* 6688; Keşiş D., Yedigöller, 2800 m, 27 vii 2002, slopes, *Kandemir* 4933, Eux.

*Allium tchihatschewii* Boiss.

Erzincan: Keşiş D., Tekçam, 2300 m, 06 vii 2002, slopes, *Kandemir* 4700; Keşiş D. Yedigöller, 2800 m, 27 vii 2002, slopes, *Kandemir* 4902; Keşiş D. above Üzümlü, 3040 m, 39°45'78" N, 39°42'85" E, 28 viii 2004, slopes, *Kandemir* 6827; Sipikör Pass, 2300 m, 07 viii 2004, roadside, *Kandemir* 6719, End., Ir.-Tur.

\**Allium tuncelianum* (Kollmann) N.Özhatay, B.Mathew & Şiraneci

Erzincan: Sakaltutan, 1657 m, 39°52'69" N, 39°14'30" E, 06 viii 2004, flowing slopes, *Kandemir* 6673, Gümüşhane: Sipikör D., South-east of Güllüce village, 2088 m, 39°54'71" N, 39°39'75" E, 01 viii 2004, flowing slopes, *Kandemir* 6617, End.

*Asparagus persicus* Baker

Erzincan: Keşiş D., above Ekşisu, 1500 m, 12 v 2002, among rocks, *Kandemir* 3561, Ir.-Tur.

*Asphodelina tenuior* (Fischer) Ledeb. subsp. *tenuiflora* (C.Koch) E.Tuzlaci var. *tenuiflora*

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, stony places, *Kandemir* 5325, Gümüşhane: Akdağ, 2226 m, 39°51'87" N, 39°26'51" E, 17 vi 2004, waste places, *Kandemir* 6134, Ir.-Tur.

\**Bellevalia pycnantha* (C.Koch) A.Los.-Los.

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 15 v 2004, damp pasture, *Kandemir* 5975, Ir.-Tur.

*Colchicum falcifolium* Stapf

Erzincan: Pöske D., 2017 m, 39°52'42" N, 39°20'91" E, 12 iv 2003, alpine meadow, *Kandemir* 5096.

*Colchicum szovitsii* Fisch. & Mey.

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 01 v 2004, watery places, *Kandemir* 5909; Sipikör D., Kovalık Pass, 2393 m, 39°51'86" N, 39°38'62" E, 09 v 2004, watery places, *Kandemir* 5948, Ir.-Tur.

*Eremurus spectabilis* Bieb.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, stony places, *Kandemir* 3953, Ir.-Tur.

\**Fritillaria alburyana* Rix.

Erzincan: Keşiş D., Tekçam, 2400 m, 07 vii 2002, alpine meadow, *Kandemir* 4214; Keşiş D., around Aygır Lake, 08 vi 2003, *Kandemir* 5203, End., Ir.-Tur.

*Fritillaria armena* Boiss.

Gümüşhane: Sipikör D., Yerebatan, 2282 m, 39°53'43" N, 39°35'28" E, 23 v 2004, stony places, *Kandemir* 6002, End., Ir.-Tur.

\**Fritillaria caucasica* J.F.Adam

Erzincan: Above Pı'kida'ı village, 2421 m, 39°41'29" N, 39°43'27" E, 24 v 2003, gravelly slopes, *Kandemir* 5145, Hyrc.-Eux.

*Fritillaria crassifolia* Boiss. & Huet subsp. *crassifolia*

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, flowing slopes, *Kandemir* 3628; Sakaltutan, 2015 m, 39°52'08" N, 39°06'35" E, 30 v 2005, flowing slopes, *Kandemir* 6881, End., Ir.-Tur.

*Fritillaria latifolia* Willd.

Erzincan: Keşiş D., Tekçam, 2400 m, 07 vii 2002, *Kandemir* 4226; Keşiş D., around Aygır Lake, 08 vi 2003, *Kandemir* 5202; Sipikör D., 2500 m, 39°52'85" N, 39°32'52" E, 02 vi 2004, flowing soil, *Kandemir* 6024, Ir.-Tur.

*Gagea bulbifera* (Palas) Schultes & Schultes fil,

Erzincan: Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, rocky, *Kandemir* 3938, Euro.-Sib.

*Gagea gageoides* (Zucc.) Vved.

Erzincan: Keşiş D., above Üzümlü, 2365 m, 25 v 2002, rocky, *Kandemir* 3624, Ir.-Tur.

*Gagea glacialis* C.Koch

Erzincan: Keşiş D., above Üzümlü, 2085 m, 14 iv 2002, gravelly places, *Kandemir* 3509, Gümüşhane: Sipikör Pass, 2200 m, 19 v 2002, stony places, *Kandemir* 3593, Ir.-Tur.

*Gagea granatelli* (Parl.) Parl.

Erzincan: Keşiş D., above Üzümlü, 2440 m, 05 v 2002, open areas, *Kandemir* 3536, Medit.

\**Hyacinthella glabrescens* (Boiss.) K.Persson & Wendelbo

Erzincan: Kolçekmez D., 1849 m, 39°48'01" N, 39°30'52" E, 10 v 2003, stony slopes, *Kandemir* 5105, End., E. Medit.

*Merendera sobolifera* C.A.Meyer apud Fisch. & Mey.

Erzincan: From Erzincan to Kelkit, 1500 m, 39°49'50" N, 39°23'67" E, snow patches, 12 iv 2003, *Kandemir* 5100. Ir.-Tur.

*Muscari aucheri* (Boiss.) Baker

Gümüşhane: Sipikör D., Devekorusu, 2246 m, 39°52'75" N, 39°38'70" E, 09 v 2004, alpine meadow, *Kandemir* 5975, End.

*Muscari coeleste* Fomin

Erzincan: 20 km from Erzincan to Pöske D., 2309 m, 39°50'99" N, 39°22'33" E, 15 v 2004, watery pastures, *Kandemir* 5982; Sakaltutan Pass, 2170 m, 39°52'80" N, 39°08'22" E, 30 iv 2005, side of melting snow, *Kandemir* 6878, End., Ir.-Tur.

*Muscari massayanum* Grunert

Erzincan: Keşiş D., Üzümlü, Bayırbağ, 1250 m, 26 v 2002, slopes, *Kandemir* 3704, Gümüşhane: North-west of Sipikör D., around Karacaören village, 1778 m, 39°57'33" N, 39°32'64" E, 02 vi 2004, slopes, *Kandemir* 6031, End., Ir.-Tur

*Muscari neglectum* Guss.

Erzincan: Pöske D., around Ahmetli village, 2057 m, 39°53'94" N, 39°23'27" E, 01 v 2004, alpine meadow, *Kandemir* 5917.

*Muscari tenuiflorum* Tausch

Erzincan: Dağınık D., above Çakırman village, 1700 m, 02 vi 2002, stony places, *Kandemir* 3717; Keşiş D., above Üzümlü, 2500 m, 08 vi 2002, rocky, *Kandemir* 3793; Keşiş D., Yedigöller, 2700 m, 27 vii 2002, roadside, colluvial soil, *Kandemir* 4941, Gümüşhane, Sipikör D., around Ku'luk village, 2081 m, 39°54'61" N, 39°37'88" E, 19 vi 2004, pasture-land, *Kandemir* 6164.

\**Ornithogalum alpigenum* Stapf

Erzincan: Dağınık D., above Çakırman village, 1900 m, 02 vi 2002, open areas, *Kandemir* 3737; Pöske D., around Ahmetli village, 2057 m, 39°53'94" N, 39°23'37" E, 01 v 2004, slopes, *Kandemir*, 5916, End. E. Medit.

*Ornithogalum oligophyllum* E.D.Clarke

Erzincan: Sipikör Pass, 2100 m, 19 v 2002, pasture-land, *Kandemir* 3585.

*Ornithogalum platyphyllum* Boiss.

Erzincan: Pöske D., around Ahmetli village, 2098 m, 39°53'43" N, 39°21'53" E, 17 vi 2004, damp meadow, *Kandemir* 6140, Gümüşhane: Devekorusu, 2386 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, damp meadow, *Kandemir* 5367, Ir.-Tur.

*Ornithogalum pyreniacum* L.

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, steppe, *Kandemir* 3756; Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3872.

*Ornithogalum sigmaideum* Freyn & Sint.

Erzincan: Sipikör D., 2000 m, 19 v 2002, pasture-land, *Kandemir* 3580, Euro.-Sib.

*Ornithogalum sphaerocarpum* Kerner

Erzincan: Pöske D., 2066 m, 39°53'55" N, 39°22'77" E, 27 vi 2004, *Quercus* areas, *Kandemir* 6270.

\**Ornithogalum umbellatum* L

Erzincan: Sakaltutan, 2000 m, flowing slopes, 21 v 2006 *Kandemir* 7242.

*Scilla siberica* Haw. subsp. *armena* (Grossh.) Mordak

Erzincan: Pöske D., 2062 m, 39°53'65" N, 39°22'85" E, 12 iv 2003, roadside, *Kandemir* 5098; Keşiş D., above Üzümlü, 2085 m, 14 iv 2002, side of snow, *Kandemir* 3506; around Sipikör Pass, 2150 m, 19 v 2002, pasture-land, *Kandemir* 3589.

*Tulipa armena* Boiss. var. *armena*

Erzincan: Pöske D., around Ahmetli village, 2309 m, 39°53'98" N, 39°22'16" E, 23 v 2004, stony places, *Kandemir* 5983, Ir.-Tur.

\**Tulipa julia* C.Koch

Erzincan: Keşiş D., above Üzümlü, 1365 m, 25 v 2002, flowing slopes, *Kandemir* 3619; Kolçekmez D., 1796 m, 39°47'90" N, 39°30'81" E, 09 v 2004, steppe, *Kandemir* 5960, Ir.-Tur.

## ORCHIDACEAE

*Cephalanthera longifolia* (L.) Fritsch

Gümüşhane: Between Pöske and Akdağ, 2 km, 1950 m, 10 vii 2003, under forest, *Kandemir* 5499, Euro-Sib.

\**Dactylorhiza euxina* (Nevski)  
H.Baumann & Künkele var. *euxina*

Erzincan: Pöske D., around Ahmetli village, 2141 m, 39°52'56" N, 39°23'66" E, 06 v 2004, damp meadow, *Kandemir* 6029, Eux.

*Dactylorhiza iberica* (Bieb. ex Willd.) Soó

Erzincan: Pöske D., around Ahmetli village, 2366 m, 39°52'56" N, 39°23'66" E, 10 vii 2003, damp meadow, *Kandemir* 5468; Sakaltutan Pass, 2397 m, 39°53'38" N, 39°08'30" E, 06 viii 2004, damp meadow, *Kandemir* 6708, E. Medit.

*Dactylorhiza osmanica* (Kl.) Soó var. *anatolica* (Nelson) Renz & Taub.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, watery place, *Kandemir* 4194; Pöske D., around Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 14 vi 2003, watery places, *Kandemir* 5232, End., Ir.-Tur.

\**Dactylorhiza umbrosa* (Kar. & Kir.) Nevski

Erzincan: Keşiş D., Üzümlü, Bayırbağ, in valley, 1280 m, 25 v 2002, streamside, colluvial soil, *Kandemir* 3687, Ir.-Tur.

*Dactylorhiza urvilleana* (Steudel) Baumann & Künkele

Erzincan: Keşiş D., Üzümlü, Bayırbağ, in valley, 1280 m, 25 v 2002, streamside, colluvial soil, *Kandemir* 3688; Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, streamside, damp meadow, *Kandemir* 4087, Gümüşhane: Sipikör Pass, 2496 m, 39°53'04" N, 39°32'54" E, 08 vii 2004, streamside, *Kandemir* 6354, Eux.

*Gymnadenia conopsea* (L.) R.Br.,

Erzincan: Pöske D., around Ahmetli village, 2058 m, 39°53'44" N, 39°21'43" E, 26 vii 2002, damp meadow, *Kandemir* 5706.

*Orchis mascula* (L.) L. subsp. *pinetorum* (Boiss. & Kotschy) C.Camus

Erzincan: Keşiş D., Tekçam, 2235 m, 39°44'62" N, 39°47'70" E, 006 vii 2002, under *Populus tremula*, *Kandemir* 4255.

\**Orchis pallens* L.

Erzincan: Keşiş D., Tekçam, 2235 m, 39°44'62" N, 39°47'70" E, 07 vi 2003, under *Populus tremula*, *Kandemir* 5161, Gümüşhane: Sipikör D., around Karacaören village, 1700 m, 39°54'67" N, 39°37'66" E, 23 v 2004, subalpine meadow, *Kandemir* 6005.

## POACEAE

*Agropyron cristatum* (L.) Gaertner subsp. *incanum* (Nab.) Melderis

Erzincan: Sipikör Pass, 2400 m, 23 vii 2003, rocky, *Kandemir* 5548; Keşiş D., above Yaylalar village, 29 vi 2002, flowing stony slopes, *Kandemir* 4136, Ir.-Tur.

\**Agropyron repens* (L.) P.Beauv.

Erzincan: Dağınık D., Kızlar Castle, 2055 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, streamside, *Kandemir* 5847; Keşiş D., above Ekşisu, 2200 m, 12 viii 2002, damp places, *Kandemir* 5036.

*Agrostis stolonifera* L.

Erzincan: Dağınık D., Kızlar Castle, 2055 m, 39°47'08" N, 39°35'82" E, 27 viii 2003, streamside, *Kandemir* 5859; Keşiş D., above Üzümlü, 2907 m, 39°40'00" N, 39°38'96" E, 27 viii 2003, streamside, *Kandemir* 5865, Euro.-Sib.

*Alopecurus arundinaceus* Poirlet

Erzincan: Keşiş D., above Üzümlü, 2200 m, 16 vi 2002, streamside, *Kandemir* 3989, Euro.-Sib.

*Alopecurus textilis* Boiss. subsp. *textiles*

Erzincan: Keşiş D., above Üzümlü, 2700 m, 15 vi 2002, *Kandemir* 3924, Gümüşhane: Sipikör D., 2150 m, 19 v 2002, stony places, *Kandemir* 3590, Ir.-Tur.

*Alopecurus textilis* Boiss. subsp. *tiflisiensis* (Westb.) Tzvelev.

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, pasture-land, *Kandemir* 5298, Ir.-Tur.

*Amblyopyrum muticum* (Boiss.) Eig var. *loliaceum* (Jaub. & Spach) Eig

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, steppe, *Kandemir* 3877, End.

*Apera intermedia* Hackel

Erzincan: Dağınık D., North-east of Çakırman village, in valley, 1450 m, 24 vi 2002, roadside, *Kandemir* 4004, Ir.-Tur.

*Arrhenatherum palaestinum* Boiss.

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, gravelly slopes, *Kandemir* 3889, E. Medit.

*Briza maxima* L.

Erzincan: Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, slopes, *Kandemir* 4170.

*Bromus cappadocicus* Boiss. & Bal. subsp. *cappadocicus*

Erzincan: Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, flowing slopes, *Kandemir* 4151; Dağınık D., above Çakırman village, 1500 m, 10 vi 2002, flowing slopes, *Kandemir* 3915.

*Bromus erectus* Hudson

Erzincan: Keşiş D., Yedigöller, 2600 m, 27 vii 2002, roadside, colluvial soil, *Kandemir* 4913; Keşiş D., Tekçam, 2600 m, 06 vii 2002, roadside, damp places, *Kandemir* 4230.

*Bromus japonicus* Thunb.

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, slopes, *Kandemir* 3907.

*Bromus tomentellus* Boiss.

Erzincan: Esence-Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, flowing slopes, *Kandemir* 5322, Ir.-Tur.

*Catabrosa aquatica* (L.) P.Beauv.

Erzincan Pöske D., North-west of Ahmetli village, 2148 m, 39°54'33" N, 39°20'57" E, 10 vii 2003, streamside, *Kandemir* 5527.

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

Erzincan: Above Üzümlü in valley, 1900 m, 23 viii 2002, slopes, *Kandemir* 5085.

*Dactylis glomerata* L.

Erzincan: Keşiş D., above Üzümlü, 2400 m, 08 vi 2002, under shrubs, shady places, *Kandemir* 3811.

*Deschampsia caespitosa* (L.) P.Beauv.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, streamside, *Kandemir* 4192; Keşiş D., above Yaylalar village, 2200 m, 26 vi 2002, damp meadow, *Kandemir* 4156.

*Eremopoa persica* (Trin.) Roshev.

Erzincan: Keşiş D., above Üzümlü, 2100 m, 15 vi 2002, under rocks, shady places, *Kandemir* 3956; Dağınık D., North-east of Çakırman village, 1450 m, 26 vi 2002, in valley, slopes, stony places, *Kandemir* 4016, Ir.-Tur.

*Festuca arundinacea* Schreber subsp. *arundinacea*

Erzincan: Dağınık D., Kızlar Castle, 39°47'08" N, 39°35'82" E, 27 viii 2003, damp meadow, *Kandemir* 5845.

*\*Festuca ovina* L.,

Erzincan: Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, flowing slopes, *Kandemir* 4110; Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, pasture-land, *Kandemir* 5306; Keşiş D., above Yaylalar village, 2400 m, 29 vi 2002, stony places, *Kandemir* 4116 Gümüşhane: Sipikör D., 2400 m, 17 vii 2003, stony places, *Kandemir* 5551.

*Festuca pratensis* Hudson

Erzincan: Keşiş D., around Yedigöller, 2700 m, 27 vii 2002, *Kandemir* 4910.

*Festuca sclerophylla* Boiss. ex Bischoff

Erzincan: Keşiş D., above Üzümlü, 2600 m, 20 vii 2002, flowing slopes, *Kandemir* 4781, Ir.-Tur.

*Hordeum violaceum* Boiss. & Huet

Erzincan: Sipikör D., Devekorusu, 2350 m, 39°51'48" N, 39°37'33" E, 29 vi 2003, rocky, *Kandemir* 5361; Keşiş D., Tekçam, 2400 m, 06 vii 2002, streamside, *Kandemir* 4182, Ir.-Tur.

*\*Hordelymus europaeus* (L.) Jessen

Erzincan: Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, gravelly slopes, *Kandemir* 5322; Keşiş D., above Yaylalar village, 2200 m, 29 vi 2002, *Kandemir* 4072, Euro.-Sib.

*\*Koeleria macrantha* (Ledeb.) Schultes

Erzincan: Dağınık D., Çakırman village, 1600 m, 02 vi 2002, flowing slopes, *Kandemir* 3774; Keşiş D., Tekçam, 2400 m, 06 vii 2002, watery places, *Kandemir* 4207.

*\*Lophochloa cristata* (L.) Hyl.

Erzincan: Dağınık D., around Çakırman village, 1450 m, 26 vi 2002, in valley, roadside, *Kandemir* 4005.

*Melica persica* Kunth subsp. *jacquemontii* (Decne. ex Jacqem.) P.H.Davis

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3880, Ir.-Tur.

*Nardus stricta* L.

Erzincan: Keşiş D., Tekçam, 2400 m, 06 vii 2002, watery places, *Kandemir* 4187, Euro.-Sib.

*Phleum alpinum* L.

Erzincan: Keşiş D., Tekçam, 2650 m, 06 vii 2002, *Kandemir* 4240, Euro.-Sib.

*Phleum montanum* C. Koch subsp. *montanum*

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3863; Keşiş D., above Yaylalar village, 29 vi 2002, pasture-land, *Kandemir* 4138.

*Phleum pratense* L.

Erzincan: Kolçekmez D., Çamlık, 2065 m, 09 viii 2003, streamside, *Kandemir* 5779; Keşiş D., Yedigöller, 2600 m, 17 vii 2002, roadside, *Kandemir* 4946, Euro.-Sib.

*Phragmites australis* (Cav.) Trin. ex Steudel

Erzincan: Keşiş D., Yedigöller, 2400 m, 27 vii 2002, damp places, *Kandemir* 4935, Gümüşhane: Sipikör D., 2204 m, 39°53'59" N, 39°35'33" E, 19 viii 2003, in valley, watery places, *Kandemir* 5791, Euro.-Sib.

*\*Piptatherum coerulescens* (Desf.) P.Beauv.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3882.

*Poa bulbosa* L.

Erzincan: Keşiş D., above Üzümlü, 2200 m, 16 vi 2002, watery places, *Kandemir* 3995; Keşiş D., Yedigöller, 2700 m, 27 vii 2002, *Kandemir* 4915; Dağınık D., above Çakırman village, 2700 m, 39°47'61" N, 39°38'25" E, 22 vi 2003, slopes, *Kandemir* 5295; Keşiş D., above E'kisu, 1500 m, 12 vi 2002, roadside, *Kandemir* 3560.

*Poa nemoralis* L.

Erzincan: Pöske D., 2010 m, 39°53'84" N, 39°23'46" E, 14 vi 2003, *Kandemir* 5246; Keşiş D., above Ekşisu, 2200 m, 10 viii 2002, steppe, *Kandemir* 5035; Keşiş D., Üzümlü, Bayırbağ, 1400 m, 06 vii 2002, streamside, *Kandemir* 4743; Dağınık D., above Çakırman village, 1700 m, 02 vi 2002, roadside, rocky, *Kandemir* 3719.

*Poa pratensis* L.

Erzincan: Keşiş D., Yedigöller, 2700 m, 27 vii 2002, roadside, *Kandemir* 4892.

*Poa trivialis* L.

Erzincan: Keşiş D., around Yedigöller, 2400 m, 27 vii 2002, roadside, *Kandemir* 4948.

*Sorghum halepense* (L.) Pers. var. *halepense*

Erzincan: Keşiş D., above Üzümlü, 1670 m, 25 v 2002, *Kandemir* 3663.

*\*Stipa capillata* L.

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, slopes, *Kandemir* 3908.

*\*Stipa hohenackeriana* Trin. & Rupr. var. *hohenackeriana*

Erzincan: Keşiş D., above Ekşisu, 1450 m, 08 vi 2002, gravelly slopes, *Kandemir* 3889; Keşiş D., Tekçam, 2800 m, 06 vii 2002, slopes, *Kandemir* 4257; Keşiş D., above Üzümlü, 2500 m, 20 vii 2002, flowing slopes, *Kandemir* 4776; Keşiş D., Yedigöller, 2750 m, 27 vii 2002, roadside, *Kandemir* 4889, Ir.-Tur.

*Taeniatherum caput-medusae* (L.) Nevski subsp. *crinitum* (Schreber) Melderis

Erzincan: Keşiş D., above Ekşisu, 1500 m, 08 vi 2002, roadside, *Kandemir* 3879, Ir.-Tur.

*Trisetum flavescens* (L.) P.Beauv.

Erzincan: Dağınık D., above Çakırman village, 2665 m, 39°47'82" N, 39°36'86" E, 22 vi 2003, *Kandemir* 5325, Euro.-Sib.

**TYPHACACEAE**

*Typha angustifolia* L.

Erzincan: Sipikör D., 2153 m, 39°51'70" N, 39°33'03" E, 03 ix 2003, watery places, *Kandemir* 5804.

*Typha domingensis* Pers.

Erzincan: Sipikör D., 2153 m, 39°51'70" N, 39°33'03" E, 03 ix 2003, watery places, *Kandemir* 5881.