

# The Flora of Bozdağ (Sızma – Konya – Turkey) and Its Environs

Esra İpekci, Murad Aydın Şanda

**Abstract**—The flora of Bozdağ (Konya) and its surroundings were investigated between 2003 and 2005 years; 700 herbarium specimens belonging to 482 taxa, 257 genera and 57 families were collected and identified from the area. The families which have the most taxa in research area are *Asteraceae* 67 (14.0%), *Fabaceae* 60 (12.6%), *Lamiaceae* 57 (11.9%), *Brassicaceae* 34 (7.1%), *Poaceae* 30 (6.3%), *Rosaceae* 24 (5.0%), *Caryophyllaceae* 23 (4.8%), *Liliaceae* 19 (4.0%), *Boraginaceae* 17 (3.6%), and *Apiaceae* 13 (2.7%).

The research area is in the district of Konya and is in the B4 square according to the Grid System. The phytogeographic elements are represented in the study area as follows; Irano-Turanian 91 (18.9%), Mediterranean 72 (14.9%), Euro-Siberian 21 (4.3%). The phytogeographic regions of 273 (56.6%) taxa are either multi-regional or unknown. The number of endemic taxa is 79 (16.3%).

**Keywords**—Bozdağ, Flora, Konya, Sızma, Turkey.

## I. INTRODUCTION

BOZDAĞ is located in the borders of Konya province. The research area is included Sızma town in the north, Beykavağı town in the north-west, Bahçesaray town in the north-east and Ardıçlı village in the south of Bozdağ. The altitude of the area is between 1030-1956 m. According to grid square system used in the Flora of Turkey, the research area is located in the square B4 (Fig. 1).

Metamorphic schists constitute the main rock type in the area. Mesozoic series are the oldest rock in the common of the area. In addition to this, Paleozoic metamorphics (common Kretase) and Tersier sediments spread on the area [1], [2].

There are red-chestnut soils in the Beykavağı, Sızma and Bahçesaray and are also red-brown soils in the Kızkayasi around in the study area [3].

The climate of the area was examined using data from the Meteorology Station in Konya and Ilgın [4]. The total average rainfall per year is 319.8 mm in Konya, 434 mm in Ilgın, and their precipitation regime are Spring, Winter, Autumn and Summer, respectively. The rainfall regime is the East Mediterranean Rain Regime Type I for Konya and Ilgın. The mean temperature for the year is 11.4 °C in Konya and 10.8 °C in Ilgın. When the climatic data was used in Emberger's formula of rain and temperature factors ( $Q=32.51$ ,  $m=-4.5$  for Konya and  $Q=44.80$ ,  $m=-4.3$  for Ilgın), it was determined that the both area have a semi-dry and upper cool.

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Three vegetation types are seen in the area: degraded forest, forest and steppe. The degraded forest vegetation is found between 1200 and 1500 m. It includes a lot of common scrubs and trees such as *Quercus pubescens* Willd., *Crataegus orientalis* Palas ex Bieb. var. *orientalis*, *Crataegus aronia* (L.) Bosc. ex DC. var. *minuta* Browicz, *Juniperus oxycedrus* L. subsp. *oxycedrus*, *Cotoneaster nummularia* Fisch. & C. A. Mey., and *Berberis crataegina* DC.

The forest vegetation is represented by the forest of *Pinus nigra* J.F. Arnold. subsp. *nigra* var. *caramanica* (Loudon) altitudes between 1300 and 1700 m in the Beykavağı and Yükselen town.

The steppe vegetation is at altitudes between 1200 and 2000 m in the mountains. The most dominant species of this vegetation types are *Astragalus angustifolius* Lam. subsp. *pungens* (Willd.) Hayek, *A. microcephalus* Willd., *Daphne oleoides* Schreb. subsp. *oleoides*, *Thymus sipyleus* Boiss. subsp. *sipyleus* var. *sipyleus*, *Euphorbia kotschyana* Fenzl and *Globularia orientalis* L.

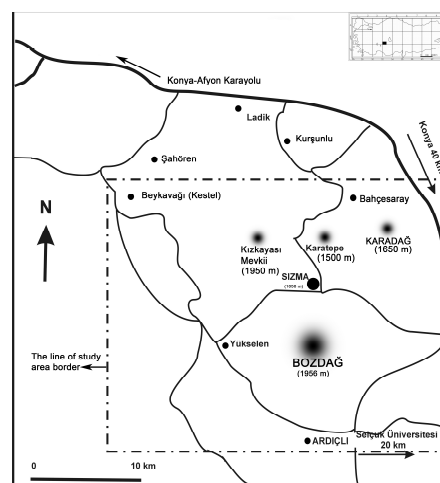


Fig. 1 The geographical map of the study area (---: border of study area)

## II. MATERIALS AND METHODS

This paper is based on a M.Sc. thesis of Esra İpekci. Seven hundred specimens were collected between 2003 and 2005 years. The specimens were identified at the family, generic and species levels according to Flora of Turkey [5]-[7] and revisions [8], [9]. The following details are stated in the appendix: family name, species name, author(s), locality, altitude, collection date, habitat, name of the collector(s) and number. Author's abbreviations follow [10]. The

phytogeographical region is given together with the species endemism and the life of all taxa. Threatened categories are evaluated for endemic taxa according to IUCN risk categories [11], [12]. The life forms mentioned in the text and abbreviated as follows: (Ph)-Phanerophyte, (Ch)-Chamaephyte, (H)-Hemicryptophyte, (Th)-Therophyte, (G)-Geophyte, (Vp)-Vascular parasite, (cv.)-cultivar. The abbreviations used in the text and the appendix are as follows: Ir.-Tur.: Irano-Turanian; Medit.: Mediterranean; E. Medit.: East Mediterranean; Euro-Sib.: Euro-Siberian; End.: Endemic; CR: Critically endangered; EN: Endangered; VU: Vulnerable; NT: Near threatened; LC: Least concern; İpekci: Esra İpekci; Şanda: Murad Aydın Şanda.

### III. RESULTS AND DISCUSSION

At the end of this study, 700 vascular plant specimens were collected from area, and 482 taxa (subspecies and varieties included) and 257 genera belonging to 57 families were established. Four of the 482 taxa are from the *Pteridophyta* division; 478 taxa belong to the *Spermatophyta* division. Five taxa belong to subdivision *Gymnospermae*, while other 472 were subdivision *Angiospermae*. Four hundred and thirteen taxa belong to the class *Dicotyledonae* and 59 taxa belong to the class *Monocotyledonae*. A summary of the numerical data is presented in Table I.

The taxa may be categorised according to phytogeographical region as follows: Irano-Turanian 91 (18.9%), Mediterranean 72 (14.9%) and Euro-Siberian 21 (4.3%). These are 273 (56.6%) taxa, of which some are of multi-regional or phytogeographically unknown. The number of endemic taxa in the study are 79 (16.6%). The distribution of the threat categories is as follows: eight endemic taxa in VU, one endemic taxon in EN, 69 endemic taxa in LC (Table I).

TABLE I  
FLORISTIC PROPERTIES OF THE RESEARCH AREA

	Ferns	Gym	Dicot	Monocot	Total
Families	4	2	43	8	62
Genera	4	2	214	37	257
Species	5	5	402	59	471
Subspecies			7		7
Varieties			4		4
Total endemic taxa			69	10	79
Endemic Medit				2	2
Endemic E. Medit			12	4	16
Endemic Ir.-Tur			33	3	36
Other endemics			24	1	25
Irano-Turanian			51	4	55
Mediterranean			49	5	54
Euro-Siberian			15	2	17
Hycr.-Euxine			1		1
Euxine			1		1
EN			1		1
VU			6	2	8
LC			64	6	70

The dominance of the Ir.-Tur. elements is expected because the study area in the Ir.-Tur. phytogeographical region. Eleven taxa of 59 *Monocotyledones* are Mediterranean elements, while Ir.-Tur. elements are mostly *Dicoyledones*. However, Euro-Sib. elements are the least common in the area because it is very far from the Euro-Sib. region. The ratio of phytogeographical region elements is compared with those in some other studies carried out in the region (Table II).

TABLE II  
PHYTOGEOGRAPHICAL SPREADING AND ENDEMISM JACCARD SIMILARITY RATIO OF TAXA FROM OTHER STUDIES

	Compared Studies						
	Bzd.	[16]	[13]	[17]	[18]	[19]	[20]
<b>Total taxa</b>	<b>482</b>	<b>461</b>	<b>417</b>	<b>428</b>	<b>600</b>	<b>262</b>	<b>390</b>
Similarity Ratio (%)		<b>10</b>	<b>22</b>	<b>22</b>	<b>28</b>	<b>19</b>	<b>24</b>
Altitude (m) (Min-Max)	1000 1900	1200 2000	1050 1800	1200 1700	1200 2300	1150 1170	1060 1500
Ir.-Tur. (%)	18.9	13.0	16.3	33.7	31.0	30.0	19.2
Medit. (%)	14.9	12.6	18.2	3.0	14.6	6.7	11.4
Euro-Sib. (%)	4.3	3.3	6.2	0.5	3.0	-	3.3
Multi-regional or unknown (%)	56.6	71.1	59.2	62.8	29.0	63.3	66.1
Total endemic taxa (%)	16.6	13.4	17.0	15.5	13.0	3.2	11.1

The largest families based on their taxa number in the area *Asteraceae* (67 taxa), *Fabaceae* (60 taxa), *Lamiaceae* (57 taxa), *Brassicaceae* (34 taxa), *Poaceae* (30), *Rosaceae* (24), *Caryophyllaceae* (23), *Liliaceae* (19), *Boraginaceae* (17), and *Apiaceae* (13), respectively (Table III). In comparison with the Flora of Turkey [6], the order of the families is approximately the same in this study. The flora of Akdag (Konya-İlgın) [13] is more similar to Bozdağ in this respect than the others. The Mediterranean elements are mostly, but Akdağ localized in the Irano-Turanian region.

TABLE III  
PHYTOGEOGRAPHICAL COMPARISON OF FIVE FAMILIES CONTAINING MOST SPECIES IN STUDIES CONDUCTED IN NEIGHBOURING REGIONS

	Compared Studies (%)						
	Bzd.	[16]	[13]	[17]	[18]	[19]	[20]
Families							
<i>Asteraceae</i>	14 (67)	12	12	15	12	16	11
<i>Fabaceae</i>	13 (60)	10	8	12	11	11	11
<i>Lamiaceae</i>	12 (57)	8	10	8	8	8	8
<i>Brassicaceae</i>	7 (34)	4	6	5	5	8	6
<i>Poaceae</i>	6 (30)	10	9	9	9	9	10

The largest genera in terms of taxa number in the area are *Astragalus* L. (16), *Centaurea* L. (12), *Alyssum* L. (10), *Salvia* L. (7). *Astragalus* L. are most larges genus in Flora of Turkey and this study (Table IV).

The taxa can also be classified according to Rauinkiaer's life form [14] are given in Table V. Biological spectrum represents the climates and environmental condition according to Raunkiaer.

For example, the ratio of phanerophytes in the tropical areas is 60%. The life form distribution are 40% (Terophyte) and

30% (Hemicryptophyte) in the Mediterranean areas and 50% (Hemicryptophyte) and 20% (Cryptophyte) in the mild areas. Suffruticose chamaephytes are characterized by more or less erect aerial shoots which die away in part an unfavourable season of the year. Perennating buds arise on the lower portions of the erect stems where they are less exposed to the environment.

TABLE IV  
COMPARISON OF THE FOUR GENERA CONTAINING THE MOST SPECIES IN  
STUDIES CONDUCTED IN NEIGHBOURING REGIONS

	Compared Studies (%)						
	Bzd.	[16]	[13]	[17]	[18]	[19]	[20]
<i>Astragalus</i>	16	11	10	14	15	6	9
<i>Centaurea</i>	12	7	8	8	10	8	9
<i>Alyssum</i>	10	7	3	5	6	5	3
<i>Salvia</i>	7	6	10	7	10	4	5

TABLE V  
THE LIFE FORM OF TAXA IN THE STUDY AREA

Life form	Number of species	Rate (%)
Phanerophyte (Ph)	44	9.1
Chamaephyte (Ch)	67	13.9
Hemicryptophyte (H)	230	47.7
Therophyte (T)	110	22.8
Geophyte (G)	29	6.0
Vascular Parasite (Vp)	2	0.5
Total	482	100

Raunkiaer gives several interesting examples from which he concludes that the zonation of vegetation progresses from a phanerophytic type in the tropical zone to therophytic in the sub-tropical desert areas, hemicryptophytic in the cold temperate and finally a chamaephytic type in the cold zone. Similar trends can be seen with increase in altitude which reflects the increasing severity of the climate. Thus there are more chamaephytes and correspondingly fewer hemicryptophytes, with increase in altitude in the Alps. In general the life form spectrum is not of great significance in corresponding adjacent areas of vegetation but is of value in the realm of 'Plant Geography' [15]. Hemicryptophytes have a high ratio (47.7%) because of our study area have a semi-dry and upper cool climate.

Floristic list and location abbreviations are indicated numbered as follows;

- (1) B4: Konya, Yükselen small town, Bozdağ, Kızılkayaı vicinity
- (2) B4: Konya, Beykavağı small town, *Pinus nigra* forest
- (3) B4: Konya, Sızma small town, Bozdağ, Yalarman vicinity
- (4) B4: Konya, Sızma small town, Bozdağ, Çal vicinity
- (5) B4: Konya, Beykavağı small town, Tavşancıl vicinity
- (6) B4: Konya, Yükselen small town, Kömürocağı vicinity
- (7) B4: Konya, Yükselen small town, Bilal vicinity

#### A. Pteridophyta

##### 1. Equisetaceae

*Equisetum ramosissimum* Desf. (2), edges of fields, 1300 m, 03 vi 2004, İpekci 476

*E. arvense* L.(1), edges of fields, 1200 m, 03 vi 2004, İpekci 478

##### Adiantaceae

*Adiantum capillus-veneris* L. (2), damp places, 1500 m, 03 vi 2004, İpekci 479.

##### Aspleniaceae

*Asplenium trichomanes* L.(3), Bozdağ, steppe, amongst rocks, 1700 m, 03 vi 2004, İpekci 480.

##### Aspidiaceae

*Dryopteris filix-mas* (L.) Schott(2), *Pinus* forest, 1700 m, 03 vi 2004, İpekci 482

#### B. Spermatophyta

##### 1. Pinaceae

*Pinus nigra* J. F. Arnold. subsp. *nigra* var. *caramanica* (Loudon) Rehder(1), 1700 m, 10 viii 2004, İpekci 212, (Ph)

##### 2. Cupressaceae

*Juniperus drupacea* Laban (1), *Pinus nigra* forest, 1700 m, 06 vii 2003, İpekci 120, (Ph).

*Juniperus oxycedrus* L. subsp. *oxycedrus*(1), Kale vicinity, *Pinus nigra* forest, 1700 m, 23 iii 2004, İpekci 141, (Ph),

*Juniperus foetidissima* Willd.(2), 1500 m, 21 ix 2003, İpekci - Şanda 105, (Ph).

*Juniperus excelsa* M. Bieb. (2), 1700 m, 02 x 2004, İpekci 243, (Ph).

##### 3. Ranunculaceae

*Nigella arvensis* L. var. *glauca* Boiss.(2), 1600 m, 03 vi 2004, İpekci - Şanda 137, (T).

*Caltha polypetala* Hochst. ex Lorent(2), Kale Tepe, damp places, 1548 m, 21 ix 2003, İpekci - Şanda 103, (H).

*Consolida stenocarpa* ( P.H.Davis & Hossain ) P.H.Davis(4), open scrub, 1400 m, End., Ir.-Tur., (T).

*C. orientalis* (Gay) Schröd.(1), Bağdayin vicinity, stony places 1400 m, 10 viii 2004, İpekci 199, (T).

*Adonis aestivalis* L. subsp. *aestivalis*(5), open steppe, 1200 m, 26 v 2004, İpekci 159, (T).

*A. flammea* Jacq(2), Kale Tepe, open steppe, 1548 m, 21 ix 2003, İpekci - Şanda 102, (T).

*Ranunculus sericeus* Banks & Sol. (1), stony places, 1700 m, 10 v 2003, İpekci 10, (H).

*R. constantinopolitanus* (DC.) d'Urv. (3), stony places, 1300 m, 10 v 2003, İpekci 11, (H).

*R. damascenus* Boiss. & Gaill.(1), stony places 1700 m, 10 v 2003, İpekci 9, Ir.-Tur., (G).

*R. argyreus* Boiss.(1), stony places, 1700 m, 10 v 2003, İpekci 20, (H).

*R. arvensis* L.(3), stony places, 1500 m, 08 vi 2003, İpekci 52, (T).

*Ceratocephalus falcatus* (L.) Pers.(6), roadside, 1200 m, 29 vii 2004, İpekci 177, (T).

##### 4. Berberidaceae

*Berberis crataegina* DC.(2), 1400 m, 26 v 2004, İpekci 143, (Ph).

##### 5. Papaveraceae

*Glaucium leiocarpum* Boiss. (3), roadside, 1400 m, 26 v 2004, İpekci 145, (H).

*G. corniculatum* (L.) J. O. Rudbeck subsp. *corniculatum*, (4), open steppe, 1400 m, 12 x 2004, İpekci 269, (H).

*Roemeria hybrida* (L.) DC. subsp. *hybrida* (2), open steppe, 1400 m, 03 vi 2004, İpekci - Şanda 172, (T).

*Papaver apokrinomenon* Fedde(2), 1400 m, 06 vii 2003, İpekci 110, End., (H).

*P. lacerum* Popov (4), open steppe, 1400 m, 11 ix 2004, İpekci 227, (T).

*P. dubium* L. (3), open steppe, 1400 m, 06 vii 2003, İpekci 111, (T).

*Hypocoum imerbe* Sibth. & Sm.(2), open steppe, 1200 m, 03 vi 2004, İpekci - Şanda 127, (T).

*Fumaria asepala* Boiss. (3), open steppe, 1400 m, 26 v 2004, İpekci 146, Ir.-Tur., (T).

#### 6. Brassicaceae

*Sinapis arvensis* L.(1), open steppe, 1700 m, 08 vi 2003, İpekci 22, (T).

*Raphanus raphanistrum* L.(1), open steppe, 1400 m, 08 vi 2003, İpekci 57, (T).

*Conringia perfoliata* (C.A.Mey.) Busch(2), 1600 m, 24 iv 2005, İpekci - Şanda 216, (T).

*Cardaria draba* (L.) Desv. subsp. *draba*(2), open steppe, 1400 m, 03 vi 2004, İpekci - Şanda 193, (H).

*Isatis glauca* Aucher ex Boiss subsp. *iconia* (Boiss. & Heldr.) Davis (2), 1400 m, 03 vi 2004, İpekci - Şanda 195, End., Ir.-Tur., (H).

*Aethionema arabicum* (L.) Andr. ex DC.(5), 1500 m, 03 vi 2004, İpekci Şanda 171, (T).

*Thlaspi perfoliatum* L.(1), *Pinus nigra* forest, 1700 m, 08 vi 2003, İpekci 23, (T).

*T. ochroleucum* Boiss. & Heldr.(1), open steppe, 1700 m, 10 v 2003, İpekci 1, (T).

*T. oxyceras* (Boiss.) Hedge, comb. nov.(2), 1500 m, 08 vii 2003, İpekci - Şanda 47, (H).

*Capsella bursa-pastoris* (L.) Medik.(3), roadside, 1300 m, 06 vii 2003, İpekci 122, (T).

*Neslia apiculata* Fisch.(2), open steppe, 1500 m, 02 vii 2003, İpekci - Şanda 34, (T)

*Alyssum aureum* (Fenzl.) Boiss.(1), open steppe, 1700 m, 08 vi 2003, İpekci 55, Ir.-Tur., (T).

*A. blepharocarpum* Dudley & Hub.-Mor.(7), open scrub, 1300 m, 12 x 2004, İpekci 271.End., Ir.-Tur., (T)

*A. dasycarpum* Steph.ex Willd. (3), open steppe, 1400 m, 06 vii 2003, İpekci 121, (T).

*A. minutum* Schlecht.ex DC.(7), roadside, 1300 m, 12 x 2004, İpekci 289, (T).

*A. contemptum* Schott & Kotschy(2), step, open steppe, 1400 m, 02 vii 2003, İpekci - Şanda 26, Ir.-Tur., (T).

*A. strigosum* Banks & Sol. subsp. *cedrorum* (Schott & Kotschy) Dudley(2), 1400 m, 08 vii 2003, İpekci - Şanda 57, (T).

*A. armenum* Boiss.(1), open steppe, 1700 m, 08 vi 2003, İpekci 53, (T).

*A. corningii* Dudley (1), open steppe, 1700 m, 08 vi 2003, İpekci 54, End., Ir.-Tur., (T).

*A. pateri* Nyár. subsp. *pateri*(5) vicinity, 1500 m, 08 vii 2003, İpekci - Şanda 56, End., Ir.-Tur., (H).

*A. murale* Waldst. & Kit. subsp. *murale* var. *murale* (4), roadside, 1400 m, 02 x 2004, İpekci 235, (H).

*Clypeola jonthlasi* L.(2), rocky places, 1500 m, 21 ix 2003, İpekci - Şanda 109, (T).

*Erophila verna* (L.) Cheval. subsp. *verna*(2), rocky places, 1300 m, 21 ix 2003, İpekci - Şanda 112, (T).

*Arabis caucasica* Willd. subsp. *caucasica*(1), rocky places, 1500 m, 10 v 2003, İpekci 12, (H).

*A. nova* Vill.(1), rocky places, 1400 m, 08 vi 2003, İpekci 56, (T).

*Barbarea verna* (Mill.) Aschers.(2), 1500 m, 21 ix 2003, İpekci - Şanda 111, (H).

*Aubrieta canescens* (Boiss.) Bornm. subsp. *canescens*(1), rocky places, 1700 m, 10 v 2003, İpekci 2, End., (H).

*Matthiola longipetala* (Vent.) DC. subsp. *bicornis* (Sibth. & Smith.) P.W.Ball(1), stony places, 1500 m, 06 vii 2003, İpekci 113, (T).

*Chorispora tenella* (Pall.) DC.(4), 1200 m, open steppe, 12 x 2004, İpekci 294, (T).

*Malcolmia africana* (L.) R. Br.(1), open steppe, 1700 m, 08 vi 2003, İpekci 25, (T).

*Erysimum goniocaulon* Boiss. (2), open steppe, 1400 m, 02 vii 2003, İpekci - Şanda 27, (H).

*Erysimum crassipes* Fisch. & Mey.(2), open steppe, 1400 m, 03 vi 2004, İpekci - Şanda 126, (H).

*Camelina rumelica* Vell.(2), 1600 m, 21 ix 2003, İpekci - Şanda 110, (T).

*C. hispida* Boiss. var. *grandifrola* (Boiss.) Hedge(2), 1500 m, 03 vi 2004, İpekci - Şanda 192, End., (T).

#### 7. Resedaceae

*Reseda lutea* L. var. *lutea*, (4), stony places, 1400 m, 02 x 2004, İpekci 244, (H).

#### 8. Cistaceae

*Cistus laurifolius* L.(2), 1500 m, 21 ix 2003, İpekci - Şanda 104, (Ph).

*Helianthemum nummularium* (L.) Miller subsp. *lycaonicum* Coode Cullen(2), 1400 m, 03 vi 2004, İpekci - Şanda 142, End., (H).

*H. canum* (L.) Baumg(2), rocky places, 1300 m, 08 vii 2003, İpekci - Şanda 48, (H).

*H. salicifolium* (L.) Miller.(4), roadside, 1300 m, 12 x 2004, İpekci 272, (T).

*Fumana thymifolia* (L.) Verlot. var. *viridis* (Ten.) Boiss.(2), open steppe, 1200 m, 02 vii 2003, İpekci - Şanda 19, Med., (Ch).

*F. aciphylla* Boiss.(2), 1400 m, 03 vi 2004, İpekci - Şanda 158, Ir.-Tur., (H).

#### 9. Violaceae

*Viola alba* Besser subsp. *alba*(2), 1400 m, 03 vi 2004, İpekci - Şanda 141, (H), Determinat: Muhittin Dinç.

*V. sieheana* Becker(1), open steppe, 1700 m, 10 v 2003, İpekci 20, (T), Det.: Muhittin Dinç.

#### 10. Polygalaceae

*Polygala anatolica* Boiss. & Heldr.(1), Bağdayın vicinity, open steppe, 1700 m, 10 viii 2004, İpekci 201, (Ch).

#### 11. Caryophyllaceae

*A.serpyllifolia* L.(3), roadside, 1400 m, 08 vi 2003, İpekci 58, (T).

*A. ledpouriana* Fenzl var. *pauciflora* Mc Neill.(2), 1500 m, 08 vii 2003, İpekci - Şanda 55, (H).

*A. acerosa* Boiss.(2), 1500 m, 08 vii 2003, İpekci - Şanda 50, End., (H).

*Minuartia hirsuta* (Bieb.) Hand.-Mazz. subsp. *falcata* (Gris.) Mattf.(1), rocky places, 1700 m, 08 vi 2003, İpekci 59, (H).

*M. juniperina* (L.) Maire & Petitm.(2), 1500 m, 08 vii 2003, İpekci - Şanda 40, (Ch).

*M. hybrida* (Vill.) Schischk subsp. *hybrida* (6), open steppe, 1700 m, 29 vii 2004, İpekci 178, (Ch).

*Cerastium dichotomum* L. subsp. *dichotomum*(2), *Pinus nigra*, 1400 m, 03 vi 2004, İpekci - Şanda 120, (T).

*Holosteum umbellatum* L. var. *Umbellatum*(2), rocky places, 1400 m, 03 vi 2004, İpekci - Şanda 162, (H).

*Dianthus zederbaueri* Vierh.(1), Gölcek vicinity., *Quercus* içi, 1500 m, 08 vi 2003, İpekci 60, End., Ir.-Tur, (H).

*D. balanse* Boiss.(3), open steppe, 1400 m, 06 vii 2003, İpekci 123, End., (H).

*D. zonatus* Fenzl. var. *zonatus*(4), Open scrub, 1400 m, 12 x 2004, İpekci 273, (H).

*Petrorhagia alpina* (Habl.) Ball & Heywood subsp. *olympica* (Boiss.) Ball & Heywood(2), 1500 m, 02 vii 2003, İpekci - Şanda 29, (H).

*Saponaria pamphylica* Boiss. & Heldr.(1), Kale vicinity, open steppe, 1700 m, 29 vii 2004, İpekci 179; Yükselen small town, roadside, 1200 m, 08 vi 2003, İpekci 61, End., (H).

*S. mesogitana* Boiss.(1), open steppe, 1700 m, 08 vi 2003, İpekci 62, E. Med., (T).

*Saponaria orientalis* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 163, (H).

*Gypsophila libanotica* Boiss.(2), roadside, 1200 m, 03 vi 2004, İpekci - Şanda 191. E. Med., (H).

*Bolanthus minuartioides* (Jaub. & Spach.) Hub.-Mor.(2), 1400 m, 03 vi 2004, İpekci - Şanda 160, End., (Ch).

*B. cherlerioides* (Bornm.) Bark.(2), step, open steppe, 1400 m, 08 vii 2003, İpekci - Şanda 59, End., E. Med., (Ch).

*Vaccaria pyramidata* Medik. var. *grandiflora* (Fisch.ex DC.) Cullen. (2), 1500 m, 07 vii 2004, İpekci 213, (H).

*Silene supina* Bieb. subsp. *pruinosa* (Boiss.) Chowdh.(2), 1400 m, 03 vi 2004, İpekci - Şanda 152, (H).

*S. alba* (Mill.) Krause subsp. *ericalyicina* (Boiss.) Walters, (1), roadside, 1200 m, 08 vi 2003, İpekci 64, (H).

*S. dichotoma* Ehrh. subsp. *sibthorpiana* (Reichb.) Rech.(1), open steppe, 1700 m, 08 vi 2003, İpekci 124, (H).

*S. conoidea* L.(2), 1400 m, 02 vii 2003, İpekci - Şanda 21, (H).

#### 12. Illecebraceae

*Herniaria incana* Lam.(4), open steppe, 1700 m, 11 ix 2004, İpekci 215, (H).

*Paronychia carica* Chaudhri (1), Beşikkaya vicinity, rocky slopes, 1700 m, 10 viii 2004, İpekci 202, (H).

#### 13. Polygonaceae

*Atraphaxis billardieri* Jaub. & Spach var. *billardieri*(3), rocky slopes, 1400 m, 02 x 2004, İpekci 245, Ir.-Tur., (Ph).

*Polygonum amphibium* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 168, (H).

*Rumex scutatus* L.(3), rocky slopes, 1700 m, 02 x 2004, İpekci 246, (H).

#### 14. Chenopodiaceae

*Chenopodium foliosum* (Moench) Aschers.(1), open steppe, 1700 m, 12 x 2004, İpekci 291, (H).

*Camphorosma monspeliaca* L. subsp. *monspeliaca*(4), 1050 m, roadside, 02 x 2004, İpekci 266, (H).

*Salsola ruthenica* Iljin(3), stony places, 1200 m, 12 x 2004, İpekci 287, (T).

*Noaea mucronata* (Forssk.) Aschers. & Schweinf. (3), open steppe, 1700 m, 02 x 2004, İpekci 247, (H).

#### 15. Hypericaceae

*Hypericum hyssopifolium* Chaix. var. *microcalycinum* (Boiss. & Heldr.) Boiss.(2), 1600 m, 02 vii 2003, İpekci - Şanda 8, Ir.-Tur., LC, (H).

*H. scabrum* L.(2), 1600 m, 19 vii 2003, İpekci - Şanda 75, Ir.-Tur., (H).

*H. atomarium* Boiss.(2), Cimboz Hill, 1500 m, 08 vii 2003, İpekci - Şanda 53, E. Med., (H).

*H. aviculariifolium* Jaub. & Spach subsp. *depilatum* (Frey & Bornm.) var. *leprosum* (Boiss.) Robsun (3), roadside, 1400 m, 06 vii 2003, İpekci 125, End., E. Med., (H).

*H. perforatum* L.(4), open scrub, 1400 m, 02 x 2004, İpekci 248, (3), (H).

#### 16. Malvaceae

*Malva neglecta* Wallr.(1), open steppe, 1700 m, 08 vi 2003, İpekci 65, (T).

*Alcea apterocarpa* (Fenzl) Boiss.(4), open steppe, 1400 m, 02 x 2004, İpekci 249, (Ch).

*Alcea pallida* Waldst & Kit.(2), 1400 m, 03 vi 2004, İpekci - Şanda 136, (H).

#### 17. Linaceae

*Linum hirsutum* L. subsp. *anatolicum* (Boiss.) Hayek var. *anatolicum*(2), step, open steppe, 1300 m, 02 vii 2003, İpekci - Şanda 12, End., Ir.-Tur., LC, (H).

*L. hirsutum* L. subsp. *pseudoanatolicum* Davis.(2), step, open steppe, 1300 m, 03 vi 2004, İpekci - Şanda 194, End., Ir.-Tur., LC, (H).

*L. aroanium* Boiss. & Orph. (2), 1200 m, 07 vii 2004, İpekci 206, (H).

*L. bienne* Mill.(3), rocky slopes, 1300 m, 08 vi 2003, İpekci 66, Med., (H).

#### 18. Geraniaceae

*Geranium tuberosum* L. subsp. *tuberosum*(5), open steppe, 1700 m, 26 v 2004, İpekci 161, Ir.-Tur., (G).

*G. pyreanicum* Burm. fill.(2), 1600 m, 07 vii 2004, İpekci - Şanda 203, (H).

*Erodium pelargoniflorum* Boiss. & Heldr.(2), 1600 m, 07 vii 2007, İpekci - Şanda 209, Endemic., LC, (H).

*E. cicutarium* (L.) L'Herit. subsp. *cicutarium*(7), open steppe, 1400 m, 11 ix 2004, İpekci 217, (T).

*E. acaule* (L.) Becherer & Thell.(7), open steppe, 1400 m, 02 x 2004, İpekci 250, Med., (T).

#### 19. Rhamnaceae

*Rhamnus oleoides* L. subsp. *graecus* (Boiss. & Reut.) Holmboe(2), 1500 m, 19 vii 2003, İpekci - Şanda 86, E. Med., (Ph).

#### 20. Anacardiaceae

*Rhus coriaria* L.(2), 1500 m, 19 vii 2003, İpekci - Şanda 90, (Ph).

*Pistacia terebinthus* L. subsp. *palaestina* (Boiss.) Engler(7), open steppe, 1300 m, 02 x 2004, İpekci 251, Med., (Ph).

#### 21. Fabaceae

*Chamaecytisus hirsutus* (L.) Link.(2), 1600 m, 08 vii 2003, İpekci - Şanda 69, (Ch).

*Genista tinctoria* L.(2), 1600 m, 03 vi 2004, İpekci - Şanda 177, Euro.-Sib., (Ch).

*Genista aucheri* Boiss.(3), open steppe, 1400 m, 08 vi 2003, İpekci 68, End., Ir.-Tur., LC, (Ch).

*Lotononis genistoides* (Fenzl.) Benth.(2), 1500 m, 19 vii 2003, İpekci - Şanda 80, Ir.-Tur., (H).

*Colutea cilicica* Boiss. & Bal.(6), rocky slopes, 1500 m, 29 vii 2004, İpekci 180, (Ph).

*Astragalus galegiformis* L.(2), 1600 m, 19 vii 2003, İpekci - Şanda 94, (H).

*A. pinetorum* Boiss.(1), açık alanlar, 1700 m, 10 v 003, İpekci 19, End., Ir.-Tur., LC, (H).

*A. microcephalus* Willd.(2), 1600 m, 19 vii 1197, İpekci - Şanda 91, Ir.-Tur., (Ch).

*A. strictifolius* Boiss. var. *kutepovii* Sirj.(2), Arıtaşı Tepe, 1758 m, 02 vii 2003, İpekci - Şanda 22.

Ir.-Tur., (Ch).

*A. condensatus* Ledeb.(2), 1400 m, 03 vi 2004, İpekci - Şanda 154, End., Ir.-Tur., (Ch).

*A. brachypterus* Fischer.(2), Arıtaşı Tepe, 1758 m, 08 vii 2003, İpekci - Şanda 49, Ir.-Tur., (Ch).

*A. tmoleus* Boiss. var. *bounacanthus* (Boiss.) Chamberlain.(2), 1600 m, 19 vii 2003, İpekci - Şanda 74, (Ch).

*A. talasseus* Boiss. & Bal.(2), Arıtaşı Tepe, 1758 m, 08 vii 2003, İpekci - Şanda 39. End., Ir.-Tur., VU, (Ch).

*A. lydius* Boiss.(3), open steppe, 1400 m, 26 v 2004, İpekci 162, End., Ir.-Tur., LC, (H).

*A. mesogitanus* Boiss.(1), open steppe, 1500 m, 06 vii 2003, İpekci 138, End., LC, (H).

*A. lycius* Boiss.(2), 1400 m, 03 vi 2004, İpekci - Şanda 123, End., LC, (H).

- A. angustifolius* Lam.subsp. *angustifolius* var. *angustifolius*(2), open steppe, 1500 m, 19 vii 2003, İpekci - Şanda 87, (Ch).
- A. angustifolius* Lam.subsp. *pungens* (Willd.) Hayek(1), open steppe, 1700 m, 10.5.2003, İpekci 18, (Ch).
- A. gymmolobus* Fischer.(2), 1400 m, 19 vii 2003, İpekci - Şanda 95, End., Ir.-Tur., LC, (Ch).
- A. vulnerariae* DC.(2), Artaşı Hill, 1758 m, 02 vii 2003, İpekci - Şanda 31, End., LC, (Ch).
- Oxytropis savellanica* Boiss.(2), open steppe, 1700 m, İpekci - Şanda 148, Ir.-Tur., (H).
- Vicia peregrina* L.(2), Başkayak Sırtı, 1700 m, 08 vii 2003, İpekci - Şanda 73, (T).
- V. lathyroides* L.(2), 1600 m, 03 vi 2004, İpekci - Şanda 182, (T).
- V. narbonensis* L. subsp. *serratifolia* (Jacq.) Nyman var. *narbonensis*(3), open steppe, 1400 m, 08 vi 2003, İpekci 94, (T).
- Lathyrus digitatus* (Bieb.) Fiori.(2), open steppe, 1400 m, 08 vii 2003, İpekci - Şanda 46, E. Med., (H).
- L. laxiflorus* (Desf.) O. Kuntze subsp. *laxiflorus*(3), stony places, 1400 m, 08 vi 2003, İpekci 71, (H).
- L. czeczottianus* Bäsler.(2), 1600 m, 07 vii 2004, İpekci 204, End., LC, (H).
- L. setifolius* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 181, Med., (T).
- L. annuus* L.(2), step, open steppe 1400 m, 03 vi 2004, İpekci - Şanda 197, Med., (T).
- Ononis adenotricha* Boiss. var. *adenotricha*(2), 1400 m, 03 vi 2004, İpekci - Şanda 145, E. Med., (H).
- O. natrix* L. subsp. *hispanica* (L.fil.) Coutinho(2), Kızılkaya Tepe, 1700 m, 02 vii 2003, İpekci - Şanda 16, Med., (Ph).
- O. spinosa* L. subsp. *antiquorum* (L.) Briq.(1), open steppe, 1700 m, 08 vi 2003, İpekci 72, Med., (Ch).
- T. repens* L. var. *repens*(2), 1600 m, 03 vi 2004, İpekci - Şanda 180, (H).
- T. hybridum* L. var. *hybridum*(3), open steppe, 1400 m, 06 vii 2003, İpekci 126, (T).
- T. nigrescens* Viv. subsp. *petrisavii* (Clem.) Holmboe(2), open steppe, 1300 m, 03 vi 2004, İpekci - Şanda 186., (T).
- T. physodes* Stev.ex Bieb. var. *physodes*(2), 1600 m, 08 vii 2003, İpekci - Şanda 45, Med., (H).
- T. pratense* L. var. *pratense*(3), open steppe, 1400 m, 08 vi 2003, İpekci 74, (H).
- T. pannonicum* Jacq. subsp. *elongatum* (Willd.) Zoh.(2), 1600 m, 08 vii 2003, İpekci - Şanda 58, End., LC, (H).
- T. hirtum* All.(3), open slopes, 1400 m, 08 vi 2003, İpekci 73, Med., (T).
- T. angustifolium* L. var. *angustifolium*(2), 1600 m, 07 vii 2004, İpekci - Şanda 199, (T).
- T. purpureum* Lois. var. *purpureum*(2), 1600 m, 07 vii 2004, İpekci 200, (T).
- Melilotus officinalis* (L.) Desr.(3), open steppe, 1200 m, 08 vi 2003, İpekci 90, (T).
- Trigonella spicata* Sibth. & Sm.(1), rocky slopes, 1700 m, 06 vii 2003, İpekci 127, E. Med., (H).
- T. capitata* Boiss.(2), 1400 m, 03 vi 2004, İpekci - Şanda 167, Ir.-Tur., (T).
- T. coerulescens* (Bieb.) Hall.(2), 1400 m, 02 vii 2003, İpekci - Şanda 37., Ir.-Tur., (T).
- T. foenum-graecum* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 170, (T).
- Medicago sativa* L. subsp. *sativa*(2), 1400 m, 03 vi 2004, İpekci - Şanda 143., (H).
- Lotus corniculatus* L. var. *tenuifolius* L.(2), 1400 m, 08 vii 2003, İpekci - Şanda 70, (H).
- L. aegaeus* (Gris.) Boiss.(2), 1400 m, 08 vi 2003, İpekci 93, Ir.-Tur., (H).
- Anthyllis vulneraria* L. subsp. *boisseri* (Sag.) Bornm.(2), step, open steppe 1400 m, 19 vii 2003, İpekci - Şanda 81, (H).
- Coronilla scorpioides* (L.) Koch.(2), 1600 m, 19 vii 2003, İpekci - Şanda 98, (T).
- C. varia* L. subsp. *varia*(2), 1400 m, 08 vi 2003, İpekci 75, (H).
- Hedysarum varium* Willd.(2), open steppe, 1600 m, 08 vii 2003, İpekci - Şanda 68, Ir.-Tur., (H).
- Onobrychis sulphurea* Boiss. & Bal. var. *pallida* (Boiss.& Ky.) Hedge.(2), 1600 m, 02 vii 2003, İpekci - Şanda 15, End., LC, E. Med., (H).
- O. montana* DC.(3), open steppe, 1400 m, 08 vi 2003, İpekci 76, (H).
- O. tournefortii* (Willd.) Desv.(1), open steppe, 1400 m, 11 ix 2004, İpekci 230, End., LC, (H).
- Ebenus longipes* Boiss. & Bal. (4), koruluk open steppe, 1400 m, 12 x 2004, İpekci 275, End., Ir.-Tur., LC, (H).
- E. hirsuta* Jaub. & Spach.(2), 1400 m, 02 vii 2003, İpekci - Şanda 14, End., Ir.-Tur., LC, (H).
- Alhagi pseudalhagi* (Bieb.) Desv.(1), roadside, 1100 m, 02 x 2004, İpekci 252, Ir.-Tur., (Ch).
- 22. Rosaceae**
- Prunus divaricata* Ledeb. subsp. *divaricata*(2), 1400 m, 03 vi 2004, İpekci - Şanda 157, (Ph).
- Cerasus prostrata* (Lab.) Ser. var. *prostrate* (1), roadside, 1050 m, 14 ix 2004, İpekci 232; Yükselen small town, Kızılkaya vicinity, roadside, 1500 m, 06 vii 2003, İpekci 128., (Ph).
- C. avium* (L.) Moench(1), bahçe içi, 1700 m, 26 v 2004, İpekci 149, (Ph), (cv.).
- Filipendula vulgaris* Moench(2), *Pinus nigra*, dere içi, 1400 m, 07 vii 2004, İpekci 205, Euro-Sib., (H).
- Rubus canescens* DC. var. *canescens*(4), roadside, 1400 m, 11 ix 2004, İpekci 214, (Ch).
- Potentilla recta* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 124, (H).
- P. supina* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 164, (H).
- Fragaria vesca* L.(1), 1700 m, 26 v 2004, İpekci 151, (H), (cv.).
- Agromania eupatoria* L.(2), 1400 m, 19 vii 2003, İpekci - Şanda 85, (H).
- Sanguisorba minor* Scob. subsp. *muricata* (Spach) Briq.(4), roadside, 1300 m, 11 ix 2004, İpekci 213, (H).
- Rosa hemisphaerica* J.Herrm.(4), *Quercus pubescens* scrub, 1400 m, 02 x 2004, İpekci 269; Ir.-Tur., (Ph).
- R. canina* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 125, (Ph).
- Mespilus germanica* L.(1), roadside, 1200 m, 14 ix 2004, İpekci 233, Hyrcano-Euxine, (Ph).
- Cotoneaster nummularia* Fisch. & Mey.(7), roadside, 1400 m, 02 x 2004, İpekci 236, (Ph).
- Crataegus orientalis* Palas ex Bieb var. *orientalis*(7), open scrub, 1400 m, 02 x 2004, İpekci 239, (Ph).
- C. szovitsii* Pojark.(7), open scrub, 1400 m, 02 x 2004, İpekci 238, (Ph).
- C. aronia* (L.) Bosc.ex DC. var. *minuta* Browicz(1), open scrub, 1200 m, 12 x 2004, İpekci 295, (Ph).
- C. aronia* (L.) Bosc.ex DC. var. *aronia*(3), open scrub, 1400 m, 26 v 2004, İpekci 147, (Ph).
- C. monogyna* Jacq. subsp. *monogyna*(7), open scrub, 1400 m, 02 x 2004, İpekci 237, (Ph).
- Crataegus monogyna* Jacq. subsp. *azarella* (Gris.) Franco(2), roadside, 1300 m, 02 vii 2003, İpekci - Şanda 25, (Ph).
- Sorbus torminalis* (L.) Crantz. var. *torminalis* (2), 1500 m, 19 vii 2003, İpekci - Şanda 84, Euro-Sib., (Ph).

*Cydonia oblonga* Mill.(1), bahçe içi, 1700 m, 26 v 2004, İpekci 150, (Ph), (cv.).

*Pyrus elaeagnifolia* Pallas subsp. *elaeagnifolia*(6), 1400 m, 29 vii 2004, İpekci 170, (Ph).

*Pyrus elaeagnifolia* Pallas. subsp. *kotschyana* (Boiss.) Browicz (3), roadside, 1400 m, 26 v 2004, İpekci 148, (Ph).

### 23. Onagraceae

*Epilobium hirsutum* L.(6), open steppe, 1700 m, 11 ix 2004, İpekci 231, (H).

*E. minutiflorum* Hausskn.(2), 1600 m, 07 vii 2004, İpekci - Şanda 212, Ir.-Tur., (H).

### 24. Crassulaceae

*Sedum acre* L.(1), rocky slopes, 1700 m, 08 vi 2003, İpekci 77, (Ch).

*S. album* L.(1), Bağdayın vicinity, open steppe, 1700 m, 10 viii 2004, İpekci 203, (Ch).

### 25. Apiaceae

*Eryngium bourgatii* Gouan subsp. *heldreichii* (Boiss.) P.H.Davis (1), Bağdayın vicinity, open steppe, 1700 m, 10 viii 2004, İpekci 204, E. Med., (H).

*Eryngium campestre* L. (1), roadside, roadside, 1000 m, 12 x 2004, İpekci 276, (H).

*Echinophora tournefortii* Jaub. & Spach(4), open steppe, 1400 m, 12 x 2004, İpekci 278, Ir.-Tur., (H)

*Anthriscus nemorosa* (Bieb.) Sprengel(2), Kürtül Tepe vicinity, 1600 m, 19 vii 2003, İpekci - Şanda 76, (H).

*Scaligeria tripartita* (Kalen.) Tamamsch(2), 1600 m, 08 vii 2003, İpekci - Şanda 41, (H).

*Bunium ferulaceum* Sm. B4: KonyaYükselen small town, Kömüroyağı vicinity, open steppe, 1700 m, 29 vii 2004, İpekci 181, Med., (T).

*Bupleurum gerardi* All.(5), 1500 m, 03 vi 2004, İpekci - Şanda 174, (T).

*Ammi visnaga* (L.) Lam.(3), open steppe, 1400 m, 11 ix 2004, İpekci 218, Med., (H).

*Johrenia tortuosa* (Fisch. & Mey.) Chamb.(4), open steppe, 1400 m, 12 x 2004, İpekci 277, (H).

*Pastinaca sativa* L. subsp. *urens* (Req.ex Godron) Celak.(1), Bilal vicinity, open steppe, 1200 m, 11 ix 2004, İpekci 219, (H).

*Torilis leptophylla* (L.) Reichb. (2), open steppe, 1400 m, 03 vi 2004, İpekci - Şanda 175, (T).

*T. arvensis* (Huds.) Link subsp. *arvensis*(3), open steppe, 1400 m, 08 vi 2003, İpekci 78, (H).

*Turgeniopsis foeniculacea* (Fenzl) Boiss.(1), open steppe, 1700 m, 10 v 2003, İpekci 13, (H).

### 26. Caprifoliaceae

*Lonicera etrusca* Santi var. *etrusca* (3), open steppe, 1200 m, 02 x 2004, İpekci 265, Med., (Ph).

### 27. Valerianaceae

*Valerianella pumila* (L.) DC.(3), stony places, 1300 m, 08 vi 2003, İpekci 80, (T).

*V. coronata* (L.) DC.(2), 1400 m, 03 vi 2004, İpekci - Şanda 155, (T).

*V. vesicaria* (L.) Moench(2), 1400 m, 03 vi 2004, İpekci - Şanda 119, (T).

### 28. Dipsacaceae

*Dipsacus laciniatus* L.(4), open steppe, 1500 m, 11 ix 2004, İpekci 220, (Ch).

*Scabiosa argentea* L.(4), open steppe, 1400 m, 12 x 2004, İpekci 279, (H).

*Ptercephalus plumosus* (L.) Coulter.(2), 1400 m, 03 vi 2004, İpekci - Şanda 173, (T).

### 29. Asteraceae

*Xanthium strumarium* L. subsp. *cavanillesii* (Schouw) D.L.Öve & P. Dans.(3), open steppe, 1200 m, 08 vi 2003, İpekci 87, (T).

*Inula orientalis* Lam. (1), open steppe, 1700 m, 08 vi 2003, İpekci 27, Euxine (mt.), (H).

*I. heterolepis* Boiss.(7), open steppe, 1400 m, 11 ix 2004, İpekci 221, E. Med., (H).

*I. anatolica* Boiss.(1), Kale vicinity, open steppe, 1700 m, 29 vii 2004, İpekci 171, End., LC, (H).

*Helichrysum arenarium* (L.) Moench subsp. *aucheri* (Boiss.) P.H.Davis & Kupicha, (1), Bağdayın vicinity, open steppe, 1700 m, 10 viii 2004, İpekci 196, End., Ir.-Tur., LC, (H).

*Filago pyramidata* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 129, (T).

*Logfia arvensis* (L.) Holub, (7), open steppe, 1200 m, 11 ix 2004, İpekci 229, (T).

*Bombycilaena erecta* (L.) Smolj., (1), open steppe, 1700 m, 08 vi 2003, İpekci 82, (T).

*Bellis perennis* L.(1), open steppe, 1400 m, 10 v 2003, İpekci 14, Euro-Sib., (H).

*Senecio vernalis* Waldst. & Kit.(1), roadside, rocky slopes, 1400 m, 08 vi 2003, İpekci 28, (T).

*S. viscosus* L.(2), open steppe, 1300 m, 03 vi 2004, İpekci - Şanda 198, (T).

*Anthemis kotschyana* Boiss. var. *poecilolepis* Boiss.(1), open steppe, 1400 m, 08 vi 2003, İpekci 83, (H).

*A. kotschyana* Boiss var. *kotschyana*(1), open steppe, 1400 m, 08 vi 2003, İpekci 29, (H).

*A. cretica* L. subsp. *albida* (Boiss.) Grierson.(2), Bilbaşı vicinity, 1600 m, 02 vii 2003, İpekci - Şanda 13, (H).

*A. tinctoria* L. var. *tinctoria* (2), 1400 m, 03 vi 2004, İpekci - Şanda 147, (H).

*Achillea wilhelmsii* C.Koch, (3), roadside, 1200 m, 08 vi 2003, İpekci 86, (H).

*Achillea lycaonica* Boiss. & Heldr.(1), roadside, 1000 m, 08 vi 2003, İpekci 84, End., Ir.-Tur., LC, (H).

*A. setacea* Waldst. & Kit.(2), step, open steppe, 1400 m, 19 vii 2003, İpekci - Şanda 82, Euro-Sib., (H).

*A. coarctata* Poir. (1), rocky places, 1700 m, 08 vi 2003, İpekci 30, (H).

*A. biebersteinii* Afan.(2), open steppe, *Pinus nigra* forest, 1400 m, 02 vii 2003, İpekci - Şanda 17, Ir.-Tur., (T).

*Tanacetum armenum* (DC.) Schultz Bib.B4: Yükselen kasaması, roadside, 1000 m, 08 vi 2003, İpekci 85, (H).

*Artemisia santonicum* L. (4), open steppe, 1400 m, 02 x 2004, İpekci 254, (Ch).

*Cirsium arvense* (L.) Scop. subsp. *vesticum* (Wimmer & Grab.) Petrak.(2), su kenarı, 1400 m, 03 vi 2004, İpekci - Şanda 128, (Ch).

*Carduus nutans* L. sensu lato.(1), open steppe, 1400 m, 08 vi 2003, İpekci 31, (H).

*C. pycnocephalus* L. subsp. *albidus* (Bieb.) Kazmi.(2), 1400 m, 03 vi 2004, İpekci - Şanda 185, (H).

*Jurinea pontica* Hausskn. & Freyn. ex Hausskn.(2), 1400 m, 19 vii 2003, İpekci - Şanda 83, End., Ir.-Tur., LC, (Ch).

*Centaurea pinetorum* Hub.- Mor.(6), open steppe, 1400 m, 29 vii 2004, İpekci 172, End., E. Med., VU, (H).

*C. virgata* Lam.(7), open steppe, 1200 m, 12 x 2004, İpekci 280, (H).

*C. pullata* L.(3), open steppe, 1400 m, 08 vi 2003, İpekci 33, Med., (H).

*C. urvillei* DC. subsp. *urvillei*(1), open scrub, 1400 m, 06 vii 2003, İpekci 116, E. Med., (H).

*C. urvillei* DC. subsp. *stepposa* Wagenitz(1), open steppe, 1400 m, 08 vi 2003, İpekci 32, Ir.-Tur., (H).

*C. bourgaei* Boiss.(1), open steppe, 1700 m, İpekci 290.End., E. Med., VU, (H), Det.: Tuna Uysal.

*C. pichleri* Boiss. subsp. *pichleri*(1), stony places, 1700 m, İpekci 253, (H). Det.: Tuna Uysal.

*C. pichleri* Boiss. subsp. *extrarosularis* (Hayek & Siehe) Wagenitz (3), stony places, 1500 m, 08 vi 2003, İpekci 34, (H).

*C. triumfettii* All.(3), open steppe, 1400 m, 26 v 2004, İpekci 153, (H). Det.: Tuna Uysal.

*C. pinardii* Boiss. (2), open steppe, 1400 m, 02 vii 2003, İpekci - Şanda 32, E. Med., (T), Det.: Tuna Uysal.

*C. cyanus* L.(3), açık stony places, 1400 m, 26 v 2004, İpekci 152, (H), Det.: Tuna Uysal.

*C. depressa* Bieb.(6), roadside, 1000 m, 11 ix 2004, İpekci 228, (T), Det.: Tuna Uysal.

*Crupina crupinastrum* (Moris) Vis.(4), open steppe, 1400 m, 02 x 2004, İpekci 240, (T).

*Xeranthemum annuum* L.(4), open scrub, 1200 m, 12 x 2004, İpekci 292, (T).

*Echinops pungens* Trautv. var. *Pungens*(7), open steppe, 1700 m, 12 x 2004, İpekci 293, Ir.-Tur., (H).

*Cichorium intybus* L. (1), roadside, 1100 m, 12 x 2004, İpekci 281, (Ch).

*Scorzonera laciniata* L. subsp. *laciniata*(3), rocky slopes, 1400 m, 26 v 2004, İpekci 155, (H).

*Scorzonera cana* (C.A.Meyer) Hoffm. var. *cana*(2), Karaçam Hill, 1700 m, 08 vii 2003, İpekci - Şanda 43, (H).

*S. parviflora* Jacq.(2), open steppe, 1400 m, 03 vi 2004, İpekci - Şanda 190, (H).

*S. tomentosa* L.(3), rocky slopes, 1500 m, 26 v 2004, İpekci 154, End., Ir.-Tur., (H).

*Tragopogon longirostris* Bisch.ex Schultz Bip. var. *longirostris*(3), rocky slopes, 1500 m, 06 vii 2003, İpekci 11, (H).

*T. bupthalmoides* (DC.) Boiss. var. *latifolius*(7), rocky slopes, 1300 m, 02 x 2004, İpekci 257, Ir.-Tur., (H).

*Leontodon hispidus* L. var. *hispidus*(3), open steppe, 1500 m, 06 vii 2003, İpekci 4, (H).

*L. crispus* Vill. subsp. *asper* (Waldst. & Kit.) Rohl. var. *asper* (6), open steppe, 1700 m, 02 x 2004, İpekci 255, (H).

*Picris hieracioides* L. (6), open steppe, 1700 m, İpekci 256, Euro-Sib., (H).

*P. strigosa* Bieb.(4), roadside, 1200 m, 12 x 2004, İpekci 282, Ir.-Tur., (H).

*H. huber-morathii* Sell & West(2), Bilbaşı vicinity, 1600 m, 02 vii 2003, İpekci - Şanda 30, End., E. Med., (T).

*H. phrygiense* Sell & West, (2), Bilbaşı Yayla, 1600 m, 02 vii 2003, İpekci - Şanda 33, End., E. Med., LC, (T).

*Pilosella pilosellaoides* (Vill.) Sojak. subsp. *pilosellaoides*(2), 1600 m, 07 vii 2004, İpekci 207, (H).

*P. pilosellaoides* (Vill.) Sojak. subsp. *megalomastik* (NP.) Sell. & West.(2), open steppe, 1300 m, 08 vii 2003, İpekci - Şanda 60, (H).

*Steptorhamphus tuberosus* (Jacq.) Grossh.(2), Artaşı Hill, 1758 m, 21 ix 2003, İpekci - Şanda 106,(G).

*Scariola orientalis* (Boiss.) Sojak, (7), open steppe, 1400 m, 02 x 2004, İpekci 271, Ir.-Tur., (H).

*Lapsana communis* L. subsp. *intermedia* (Bieb.) Hayek. (2), 1400 m, 03 vi 2004, İpekci - Şanda 156, (T).

*Taraxacum crepidiforme* DC. subsp. *crepidiforme*, (3), meadow places, 1400 m, 26 v 2004, İpekci 156, (H).

*Crepis sancta* (L.) Babcock. (2), rocky slopes, 1500 m, 02 vii 2003, İpekci - Şanda 24, (T).

### 30. Campanulaceae

*Campanula lyrata* Lam. subsp. *lyrata*, (2), 1400 m, 03 vi 2004, İpekci - Şanda 139, (H).

*Asyneuma limonifolium* (L.) Janchen. subsp. *pestalozzae* (Boiss.) Damboldt.(2), 1600 m, 19 vi2005, İpekci 217, End., LC, (Ch).

*A. michauxioides* (Boiss.) Damboldt.(2), 1600 m, 02 vii 2003, İpekci - Şanda 18, End., E. Med., LC, (H).

### 31. Primulaceae

*Primula vulgaris* Huds. subsp. *vulgaris*, (1), Kale vicinity, meadow places, 1300 m, 26 v 2004, İpekci 163, Euro-Sib., (H).

*P. veris* L. subsp. *macrocalyx* (Bunge) Lüdi, (3), meadow places, 1700 m, 10 v 2003, İpekci 21, (H).

*P. elatior* (L.) Hill. subsp. *pallasi* (Lehm.) W.W.Sm & Forrest, (2), Kızılkaya Tepe civarı, 1700 m, 21 ix 2003, İpekci - Şanda 108, Euro-Sib., (H).

*Androsace maxima* L., (4), rocky slopes, 1400 m, 11 ix 2004, İpekci 222, (T).

*Anagallis foemina* Mill.(4), open scrub, 1200 m, 12 x 2004, İpekci 286;Yükselen small town, Bilal vicinity,open scrub, 1400 m, 02 x 2004, İpekci 258, Med., (T).

### 32. Oleaceae

*Jasminum fruticans* L., (6), open steppe, 1200 m, 02 x 2004, İpekci 259, Med., (Ph).

### 33. Apocynaceae

*Vinca herbaceae* Waldst. & Kit.(1), open steppe, 1700 m, 08 vi 2003, İpekci 88., (Ch).

### 34. Convolvulaceae

*Convolvulus holosericeus* Bieb. subsp. *holosericeus*, (2), 1600 m, 02 vii 2003, İpekci - Şanda 10, (H).

*C. compactus* Boiss.(1), Gölcek Hill, open scrub, 1500 m, 06 vii 2003, İpekci 130, (H).

*C. arvensis* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 144, (H).

### 35. Boraginaceae

*Lappula barbata* (Bieb.) Gürke, (6), open steppe, 1200 m, 29 vii 2004, İpekci 194, Ir.-Tur., (H).

*Myosotis alpestris* F.W.Schmidt subsp. *alpestris*, (1), open steppe, 1700 m, 10 v 2003, İpekci 15, (H).

*M. incrassata* Guss.(3), open steppe, 1400 m, 06 vii 2003, İpekci 131, (H).

*Arnebia densiflora* (Nordm.) Ledeb.(2), 1700 m, 02 x 2004, İpekci 260, Ir.-Tur., (Ch).

*Buglossoides incrassata* (Guss.) Johnston, (2), Artaşı Hill, 1758 m, 21 ix 2003, İpekci - Şanda 113, Med., (T).

*Neotostema apulum* (L.) Johnston, (3), open steppe, 1400 m, 08 vi 2003, İpekci 89, Med., (T).

*Echium italicum* L.(1), roadside, 1100 m, 12 x 2004, İpekci 283, Med., (H).

*E. vulgare* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 121, Euro-Sib., (Ch).

*Moltika coerulea* (Willd.) Lehm.(2), 1400 m, 03 vi 2004, İpekci - Şanda 153, Ir.-Tur., (H).

*Onosma haussknechtii* Bornm.(3), open steppe, 1400 m, 08 vi 2003, İpekci 95, Ir.-Tur., (H).

*O. stenobolium* Hausskn.ex H.Riedl, (7), open scrub, 1400 m, 11 ix 2004, İpekci 223, End., Ir.-Tur., LC, (H).

*O. tauricum* Palas. ex Willd. var. *tauricum*, (6), open steppe, 1400 m, 29 vii 2004, İpekci 182, (H).

*Cerintheminor* L. subsp. *auriculata* (Ten.) Domac, (6), roadside, 1200 m, 29 vii 2004, İpekci 183, (H).

*Anchusa leptophylla* Roem. & Schult. subsp. *leptophylla*, (6), roadside, 1400 m, 29 vii 2004, İpekci 193, (H).

*A. undulata* L. subsp. *hybrida* (Ten.) Cout.(6), open scrub, 1400 m, 29 vii 2004, İpekci 184, Med., (H).



*A. azurea* Miller var. *azurea*, (2), 1400 m, 03 vi 2004, İpekci - Şanda 122, (Ch).

*Alkanna tubulosa* Boiss.(1), open steppe, 1700 m, 10 v 2003, İpekci 19, End., E. Med., LC, (H).

### 36. Scrophulariaceae

*Verbascum cheiranthifolium* Boiss. var. *cheiranthifolium*, B4: Konya Beykavağı small town, Artaşı Hill, 1758 m, 19 vi 2005, İpekci 218, (Ch).

*Scrophularia lucida* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 146, Med., (H).

*Linaria genitifolia* (L.) Mill. subsp. *confertiflora* (Boiss.) Davis, (6), open scrub, 1200 m, 29 vii 2004, İpekci 185, End., Ir.-Tur., LC, (H).

*Digitalis ferruginea* L. subsp. *ferruginea*, (7), field, 1350 m, 12 x 2004, İpekci 296, Euro-Sib., (H).

*Veronica verna* L.(1), stony places, 1700 m, 10 v 2003, İpekci 21, Euro-Sib., (Ch).

*V. anagallis-aquatica* L.(2), damp places, 1400 m, 08 vii 2003, İpekci - Şanda 72, (H).

*V. michauxii* Lam.(5), 1400 m, 08 vii 2003, İpekci - Şanda 72, Ir.-Tur., (H).

*V. macrostachya* Vahl subsp. *sorgerae* M.A.Fisch.(6), open steppe, 1400 m, 29 vii 2004, İpekci 186, End., E. Med., VU, (Ch).

*V. multifida* L.(1), stony places, 1250 m, 10 v 2003, İpekci 16, End., Ir.-Tur., LC, (Ch).

### 37. Orobanchaceae

*Orobanche minor* Sm. (2), Bilbaşı Yayla, 1600 m, 03 vi 2004, İpekci - Şanda 176, (Vp).

*Orobanche caryophyllacea* Smith, (4), rocky slopes, 1200 m, 11 ix 2004, İpekci 226, (Vp).

### 38. Acanthaceae

*Acanthus hirsutus* Boiss. (1), Bozdağ, open steppe, 1700 m, 10 viii 2004, İpekci 197, End., Ir.-Tur., LC, (H).

### 39. Globulariaceae

*Globularia orientalis* L.(1), open scrub, 1200 m, 08 vi 2003, İpekci 96, Ir.-Tur., (Ch).

*G. trichosanthe* Fisch. & Mey.(1), open steppe, 1700 m, 10 v 2003, İpekci 2, (H).

### 40. Lamiaceae

*Ajuga chamaepitys* (L.) Schreb. subsp. *chia* (Schreb.) Arcang. var. *chia*, (4), open steppe, 1400 m, 02 x 2004, İpekci 241, (Ch).

*A. bombycina* Boiss.(1), open steppe, 1700 m, 10 v 2003, İpekci 3, End., E. Med, LC, (H).

*Teucrium orientale* L. var. *orientale*, (7), open scrub, 1400 m, 02 x 2004, İpekci 242, Ir.-Tur., (H).

*T. chamaedrys* L. subsp. *chamaedrys*, (6), open steppe, 1400 m., 29 vii 2004, İpekci 173, Euro-Sib., (Ch).

*T. polium* L.(3), open steppe, 1400 m, 06 viii 2003, İpekci 36, (Ch).

*T. lamiifolium* d'Urv. subsp. *lamiifolium*, (3), open steppe, 1400 m, 06 vii 2003, İpekci 117, (H).

*Lavandula stoechas* L. subsp. *stoechas*, (6), open scrub, 1500 m, 29 vii 2004, İpekci 174, Med., (Ch).

*Scutellaria salviifolia* Bent.(3), open steppe, 1700 m, 06 viii 2003, İpekci 37, End., LC, (Ch).

*S. orientalis* L. subsp. *pinnatifida* Edm.(3), open steppe, 1400 m, 06 viii 2003, İpekci 38, (Ch).

*Phlomis armeniaca* Willd.(3), Bozdağ, rocky slopes 1500 m, 06 viii 2003, İpekci 39, End., Ir.-Tur., (Ch).

*P. nissoli* L.(7), roadside, 1300 m, 02 x 2004, İpekci 267, End., Ir.-Tur., LC, (H).

*Lamium macrodon* Boiss. & Huet, (1), rocky places, 1700 m, 08 vi 2003, İpekci 40, Ir.-Tur., (T).

*L. eriocephalum* Benthams subsp. *glandulosidens* (Hub.- Mor) R. Mill.(3), rocky slopes, 1700 m, 08 vi 2003, İpekci 91, End., E. Med., (T).

*Wiedemannia orientalis* Fisch. & Mey.(3), open steppe, 1700 m, 08 vi 2003, İpekci 48, End., Ir.-Tur., LC, (H).

*Ballota nigra* L. subsp. *anatolica* P.H.Davis, (2), 1600 m, 03 vi 2004, İpekci - Şanda 196, End., Ir.-Tur., LC, (H).

*Sideritismontana* L. subsp. *remota* (d'Urv.) P.W. Ball ex Heywood, (3), rocky slopes, 1425 m, 08 vi 2003, İpekci 41, E. Med., (H).

*Sideritis libanotica* Labill. subsp. *linearis* (Benth.) Bornm, (3), rocky slopes, 1700 m, 29 vii 2004, İpekci 187, End., LC, (H).

*Stachys lavandulifolia* Vahl var. *lavandulifolia*, (3), Bozdağ, rocky slopes, 1700 m, 08 vi 2003, İpekci 42, Ir.-Tur., (H).

*S. iberica* Bieb. subsp. *iberica* var. *iberica*, (2), 1400 m, 02 vii 2003, İpekci - Şanda 23, Ir.-Tur., (H).

*S. iberica* Bieb. subsp. *iberica* var. *densipilosa* Bhattacharjee, (2), 1400 m, 08 vii 2003, İpekci - Şanda 67, End., Ir.-Tur., LC, (H).

*S. annua* (L.) L. subsp. *annua* var. *lycaonica*, (2), 1600 m, 08 vii 2003, İpekci - Şanda 44, Ir.-Tur., (T).

*Nepeta italica* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 138, (H).

*Calamintha tauricola* P.H.Davis, (2), 1600 m, 07 vii 2004, İpekci 210, End., E. Med., VU, (H).

*Clinopodium vulgare* L. subsp. *vulgare*, (2), 1600 m, 07 vii 2004, İpekci 211, (H).

*C. vulgare* L. subsp. *arundanum* (Boiss.) Nyman, (2), 1600 m, 07 vii 2004, İpekci 208, (H).

*Acinos rotundifolius* Pers.(3), open steppe, 1700 m, 08 vi 2003, İpekci 43, (T).

*Micromeria myrtifolia* Boiss. & Hohen.(2), 1400 m, 03 vi 2004, İpekci - Şanda 161, E. Med., (H).

*Cyclotrichium organifolium* (Labill.) Manden. & Scheng.(2), 1400 m, 02 vii 2003, İpekci - Şanda 38, E. Med., (Ch).

*Thymus cilicicus* Boiss. & Bal.(2), 1400 m, 03 vi 2004, İpekci - Şanda 149, (Ch).

*T. zygoides* Griseb. var. *lycaonicus* (Celak.) Ronniger. (2), 1400 m, 02 vii 2003, İpekci - Şanda 2, End., E. Med, LC, (Ch).

*T. sipyleus* Boiss. subsp. *sipyleus* var. *sipyleus*, (3), rocky slopes, 1425 m, 08 vi 2003, İpekci 44, End., (Ch).

*T. leucostomus* Hausskn. & Velen. var. *leucostomus*, (3), rocky slopes, 1425 m, 08 vi 2003, İpekci 45, End., Ir.-Tur., LC, (Ch).

*T. longicaulis* C.Presl. subsp. *longicaulis* var. *subisophyllus* (Borbás) Jalas.(2), 1600 m, 07 vii 2004, İpekci 202, (Ch).

*T. longicaulis* C.Presl. subsp. *chaubardii* (Boiss. & Heldr. ex Reichb. fill.) Jalas. var. *antalyanus* (Klokov) Jalas.(2), step, open steppe, 1400 m, 19 vii 2003, İpekci - Şanda 89, End., LC, (Ch).

*Thymbra spicata* L. var. *spicata*, (2), Bilbaşı Yayla, 1600 m, 02 vii 2003, İpekci - Şanda 7, E. Med, (Ch).

*Mentha longifolia* (L.) Huds. subsp. *typhoides* (Briq.) Harley var. *typhoides*, (6), open steppe, 1400 m, 29 vii 2004, İpekci 195, (H).

*Ziziphora clinopodioides* Lam.(2), 1400 m, 03 vi 2004, İpekci - Şanda 169, (Ch).

*Z. capitata* L.(5), 1500 m, 21 ix 2003, İpekci - Şanda 107, Ir.-Tur., (T).

*Z. tenuior* L.(3), open steppe, 1400 m, 08 vi 2003, İpekci 46, Ir.-Tur., (T).

*Z. taurica* Bieb. subsp. *taurica*, (2), stony places, 1300 m, 03 vi 2004, İpekci - Şanda 178, Ir.-Tur., (T).

*Salvia tomentosa* Miller, (2), 1400 m, 03 vi 2004, İpekci - Şanda 165, Med., (H).

*Salvia potentillifolia* Boiss. & Heldr. ex Benth in DC.(3), open steppe, 1400 m, 08 vi 2003, İpekci 47, End., E. Med., LC, (Ch).

*S. cryptantha* Montbret & Aucher ex Benth.(3), open steppe, 1600 m, 06 vii 2003, İpekci 118, End., Ir.-Tur., LC, (Ch).

*S. sclarea* L.(2), 1400 m, 02 vii 2003, İpekci - Şanda 1, (Ch).

*S. cyanescens* Boiss. & Bal.(4), open steppe, 1300 m., 12 x 2004, İpekci 285, Endemic, Ir.-Tur., LC, (H).

*S. virgata* Jacq. (3), roadside, 1400 m, 06 vii 2003, İpekci 137, Ir.-Tur., (H).

#### 41. *Plumbaginaceae*

*Plumbago europaea* L.(7), open scrub, 1100 m, 11 ix 2004, İpekci 224,(H).

*Acantholimon venustum* Boiss. var. *venustum*, (2), 1400 m, 03 vi 2004, İpekci - Şanda 140, Ir.-Tur., (Ch).

*A. acerosum* (Willd.) Boiss. var. *acerosum*, (2), Artaşı Hill, 1758 m, 08 vii 2003, İpekci - Şanda 65, Ir.-Tur., (Ch).

*A. confertiflorum* Bokhari, (1), Bozdağ, rocky slopes, 1700 m, 10 viii 2004, İpekci 206, End., Ir.-Tur., EN, (Ch).

#### 42. *Plantaginaceae*

*Plantago holosteum* Scop.(2), 1400 m, 19 vii 2003, İpekci - Şanda 92, Med., (H).

*P. lanceolata* L.(3), roadside, 1400 m, 06 vii 2003, İpekci 134, (H).

#### 43. *Thymelaceae*

*Daphne oleoides* Schreb. subsp. *oleoides*, (4), open steppe, 1700 m, 11 ix 2004, İpekci 225, (Ch).

#### 44. *Santalaceae*

*Thesium bergeri* Zucc.(2), Bilbaşı Yayla, 1600 m, 03 vi 2004, İpekci - Şanda 184, E. Med., (T).

#### 45. *Aristolochiaceae*

*Aristolochia maurorum* L.(6), fields, 1300 m, 29 vii 2004, İpekci 188, Ir.-Tur., (H).

#### 46. *Euphorbiaceae*

*Euphorbia stricta* L.(1), Kale vicinity, rocky slopes, 1400 m, 29 vii 2004, İpekci 189, Euro-Sib., (T).

*E. anacamperos* Boiss. var. *anacamperos*, (1), rocky slopes, 1700 m, 12 x 2004, İpekci 299, End., LC, (H).

*E. macroclada* Boiss.(3), rocky slopes, 1500 m, 02 x 2004, İpekci 262, Ir.-Tur., (H).

*E. seguieriana* Necker. subsp. *seguieriana*, (2), 1400 m, 03 vi 2004, İpekci - Şanda 131, Euro-Sib., (H).

*E. kotschyana* Fenzl. (2), 1400 m, 03 vi 2004, İpekci - Şanda 130, E. Med., (Ph).

#### 47. *Ulmaceae*

*Ulmus minor* Mill. subsp. *minor*, (1), edges of fields, 1400 m, 14 ix 2004, İpekci 234, (Ph).

#### 48. *Fagaceae*

*Quercus robur* L. subsp. *robur*, (4), stony places, 1400 m, 02 x 2004, İpekci 263, (Ph).

*Q. vulcanica* (Boiss. & Heldr. ex Kotschy)(2), 1100 m, 19 vii 2003, İpekci - Şanda 79, End., E. Med., LC, (Ph).

*Q. pubescens* Willd.(4), stony places, 1400 m, 02 x 2004, İpekci 264, (Ph).

*Q. cerris* L. var. *cerris*, (5), 1400 m, 19 vii 2003, İpekci - Şanda 78, (Ph).

*Q. ithaburensis* Decne. subsp. *macrolepis* (Kotschy.) Hedge & Yalt.(2), 1500 m, 19 vii 2003, İpekci - Şanda 77, E. Med., (Ph).

#### 49. *Salicaceae*

*Salix alba* L.(1), edges of fields, 1400 m, 10 viii 2004, İpekci 208, (Ph).

*Populus nigra* L. (1), near of stream, 1400 m, 10 viii 2004, İpekci 210, (Ph), (cv.).

*P. tremula* L.(3), roadside, 1300 m, 10 viii 2004, İpekci 211, Euro-Sib., (Ph), (cv.).

#### 50. *Rubiaceae*

*Asperula stricta* Boiss. subsp. *stricta*, (2), Kızılkaya Hill, 1700 m, 19 vii 2003, İpekci - Şanda, 93, E. Med., (H).

*A. stricta* Boiss. subsp. *latibracteata* (Boiss.) Ehrend.(2), Kızılkaya Hill, 1700 m, 08 vii 2003, İpekci - Şanda 54, End., Ir.-Tur., LC, (H).

*A. involucrata* Wahlenb.(2), 1400 m, 08 vii 2003, İpekci - Şanda 66, Euro-Sib., (H).

*A. orientalis* Boiss. & Hohen, (2), Bilbaşı Yayla, 1600 m, 08 vii 2003, İpekci - Şanda 64, Ir.-Tur., (H).

*A. arvensis* L.(2), Bilbaşı Yayla, 1600 m, 19 vii 2003, İpekci - Şanda 96, Med., (H).

*Galium peplidifolium* Boiss.(2), 1400 m, 02 vii 2003, İpekci - Şanda 9, E. Med., (T).

*G. verum* L. subsp. *verum*, (1), open steppe, 1700 m, 10 v 2003, İpekci 18, Euro-Sib., (Ch).

*G. verum* L. subsp. *glabrescens* Ehrend.(1), open steppe, 1700 m, 08 vi 2003, İpekci 97, Ir.-Tur., (Ch).

*G. dumosum* Boiss.(2), 1400 m, 03 vi 2004, İpekci - Şanda 166, End., LC, (H).

*G. spurium* L. subsp. *spurium*, (1), open steppe, 1700 m, 08 vi 2003, İpekci 98, Euro-Sib., (T).

*G. subuliferum* Somm. & Lev.(6), open steppe, 1400 m, 29 vii 2004, İpekci 190, (H).

*Callipeltis cucullaria* (L.) Steven, (7), open scrub, 1200 m, 02 x 2004, İpekci 270, Ir.-Tur., (T).

*Crucjata taurica* (Pall. ex Willd.) Ehrend.(6), open steppe, 1700 m, 29 vii 2004, İpekci 191, Ir.-Tur., (H).

#### 51. *Araceae*

*Arum conophalloides* Kotschy ex Schott var. *conophalloides*, (6), open steppe, 1700 m, 29 vii 2004, İpekci 192, (H).

#### 52. *Liliaceae*

*Asphodeline taurica* (Pallas) Kunth.(1), stony places, 1700 m, 10 v 2003, İpekci 5, E. Med., (G).

*A.damaescana* (Boiss.) Baker, (1), stony places, 1600 m, 08 vi 2003, İpekci 50, End., Ir.-Tur., LC, (G).

*Allium flavum* L. subsp. *flavum* var. *flavum*, (1), Bozdağ, rocky slopes, 1400 m, 10 viii 2004, İpekci 207, Med., (G), Det.: Tuna Uysal

*Allium sativum* L. (6), 1400 m, 29 vii 2004, İpekci 175, (G), Det.: Tuna Uysal.

*A. calyptratum* Boiss.(5), rocky places, 1400 m, 26 v 2004, İpekci 165, E. Med. (G), Det.: Tuna UYSAL

*A. sintenisii* Freyn, (5), rocky places, 1400 m, 08 vi 2003, İpekci 51, End., Ir.-Tur. (G), Det.: Tuna Uysal.

*Ornithogalum ortophyllum* Ten.(3), open steppe, 1400 m, 26 v 204, İpekci 167, (G).

*Ornithogalum armeniacum* Baker, (1), Kale vicinity, open steppe, 1400 m, 26 v 2004, İpekci 166, E. Med., (G)

*Muscari tenuiflorum* Tausch.(2), çayırlık open steppe, 1600 m, 28 v 2004, İpekci - Şanda 118. (G), Det.: Tuna Uysal.

*M. armeniacum* Leichtlin ex Baker, (2), çayırlık open steppe, 1600 m, 18 iv 2004, İpekci - Şanda 115, (G), Det.: Tuna Uysal.

*M. aucheri* (Boiss.) Baker, (2), step, open steppe 1700 m, 11 iv 2004, İpekci - Şanda 116. (G), End., Det.: Tuna Uysal.

*M. neglectum* Guss, (1), çayırlık open steppe, 1300 m, 10 v 2003, İpekci 15, (G), Det.: Tuna UYSAL.

*M. bourgaei* Baker, (5), open steppe, 1600 m, 26 v 2004, İpekci 157, Endemic Med., (G), Determinant: Tuna Uysal.

*Hyacinthella campanulata* K.Persson & Wendelbo, (3), Bozdağ kuzey yamaçları, 1700 m, 11 iv 2004, İpekci - Şanda 117, End., Ir.-Tur., (G)

*Fritillaria pinardii* Boiss.(3), stony places, 1700 m, 10.5.2003, İpekci 21, Ir.-Tur., (G).

*Tulipa humilis* Herb.(1), open steppe, 1700 m, 10 v 2003, İpekci 6, (G).

*Gagea foliosa* (J. & C. Presl) Schultes & Schultes fil.(2), 1600 m, 24 iv 2005, İpekci 215, (G).

*G. peduncularis* (J. & C.Presl) Pascher, (1), çayırlik open steppe, 1700 m, 10 v 2003, İpekci 7, Med., (G).

*Colchicum burtii* Meikte, (1), Kale vicinity, open steppe, 1700 m., 23.03.2004, İpekci 139, End., E. Med., (G) .

#### 53. Iridaceae

*Iris stenophylla* Hausskn. & Siehe ex Baker subsp. *stenophylla*, (3), Bozdağ zirveye yakın, 1900 m, 23.03.2004, İpekci 140, End., E. Med., (G).

*Crocus chrysanthus* (Herb.) Herb.(1), open steppe, 1700 m, 10 v 2003, İpekci 8, (G).

#### 54. Orchidaceae

*Cephalanthera rubra* (L.) L.C.M. Richard.(2), 1600 m, 02 vii 2003, İpekci - Şanda 6, (G).

*Epipactis helleborine* (L.) Crantz, (2), 1400 m, 03 vi 2004, İpekci - Şanda 151, E. Med., (G).

*Orchis mascula* (L.) L. subsp. *pinetorum* (Boiss. & Kotschy.) G. Canus.(2), 1500 m, 02 vii 2003, İpekci - Şanda 28, (G).

#### 55. Typhaceae

*Typha angustifolia* L.(1), su kenarı, 1150 m, 12 x 2004, İpekci, Hydrophyte.

#### 56. Juncaceae

*Juncus articulatus* L.(2), 1600 m, 07 vii 2004, İpekci - Şanda, Euro-Sib., (Ph).

#### 57. Cyperaceae

*Scirpoides holoschoenus* (L.) Sojak, (4), open steppe, 1400 m, 02 x 2004, İpekci 272, (G).

*Carex divisia* Hudson, (2), 1400 m, 07 vii 2004, İpekci 214, (Ch).

#### 58. Poaceae (gramineae)

*Brachypodium sylvaticum* (Hudson.) P.Beauv, (2), 1600 m, 02 vii 2003, İpekci - Şanda 5, Euro-Sib., (H).

*Elymus tauri* (Boiss. & Bal.) Melderis, (4), roadside, 1700 m, 02 x 2004, İpekci 268, Ir.-Tur., (T).

*Elymuselongatus* (Host) Runemark. subsp. *ponticus* (Podp.) Melderis.(2), 1400 m, 08 vii 2003, İpekci - Şanda 52, (H).

*Aegilops triuncialis* L. subsp. *triuncialis*, (3), roadside, 1200 m, 08 vi 2003, İpekci 108, (T).

*Taeniatherum caput-medusae* (L.) Nevski subsp. *crinitum*(Schreb.) Melderis, (1), roadside, 1100 m, 08 vi 2003, İpekci 100, Ir.-Tur, (T).

*Hordeum murinum* L. subsp. *glaucum* (Steudel. ) Tzvelev.(2), 1400 m, 03 vi 2004, İpekci - Şanda 189, Med., (T).

*H. vulgare* L.(2), 1400 m, 03 vi 2004, İpekci - Şanda 133, (T).

*Bromus danthoniae* Trin.(2), 1600 m, 03 vi 2004, İpekci - Şanda 187, (T).

*B. tectorum* L.(1), roadside, 1200 m, 08 vi 2003, İpekci 105, (T).

*B. arvensis* L.(4), 1700 m, 02 x 2004, İpekci 273, (T).

*B.hordeaceus* L. subsp. *hordeaceus*, (1), roadside, 1000 m,08 vi 2003, İpekci 106, (T).

*Koeleria cristata* (L.) Per.(2), 1600 m, 07 vii 2004, İpekci 201, (H).

*Apera intermedia* Hackel apud Zederbauer, (2), 1500 m, 08 vii 2003, İpekci - Şanda 61, Ir.-Tur., (T).

*A. interrupta* (L.) P. Beauv.(1), roadside, 1000 m, 08 vi 2003, İpekci 107, (T).

*Phleum montanum* C.Koch. subsp. *montanum*, (2), Bilbaşı vicinity, 1600 m, 08 vii 2003, İpekci - Şanda 63, (H).

*P. montanum* C.Koch. subsp. *serrulatum* (Boiss.) M.Dogan, (2), Bilbaşı vicinity, 1600 m, 08 vii 2003, İpekci - Şanda 62, E. Med., (H).

*P. exaratum* Hochst. ex Griseb. subsp. *exaratum*, (2), 1600 m, 08 vii 2003, İpekci - Şanda 42, (H).

*Festuca heterophylla* Lam.(2), 1600 m, 02 vii 2003, İpekci - Şanda 3, Euro-Sib., (H).

*F. valesiaca* Schleicher ex Gaudin, (1), rocky slopes, 1700 m, 08 vi 2003, İpekci 103, (H).

*F. callieri* (Hackel ex St.-Yves) F. Malkgraf apud Hayek subsp. *callieri*, (1), rocky slopes, 1700 m, 08 vi 2003, İpekci 104, (H).

*Lolium perene* L.(2), 1600 m, 02 vii 2003, İpekci - Şanda 35, Euro-Sib., (H).

*Vulpia ciliata* Dumort. subsp. *ciliata*, (2), 1600 m, 03 vi 2004, İpekci - Şanda 150, (T).

*Poa trivalis* L.(2), 1600 m, 03 vi 2004, İpekci - Şanda 188, (H).

*P. alpina* L. subsp. *fallax* F.Hermann, (1), roadside, 1700 m, 08 vi 2003, İpekci 101, (T).

*P. bulbosa* L. (1), roadside, 1700 m, 08 vi 2003, İpekci 102, (G).

*Dactylis glomerata* L. subsp. *hispanica* (Roth.) Nyman.(2), 1400 m, 03 vi 2004, İpekci - Şanda 132, (H).

*Briza humilis* Bieb.(2), 1400 m, 03 vi 2004, İpekci - Şanda 135, (T).

*Echinaria capitata* (L.) Desf.(2), rocky places, 1500 m, 21 ix 2003, İpekci - Şanda 101, (T).

*Melica ciliata* L. subsp. *ciliate*, (2), 1400 m, 03 vi 2004, İpekci - Şanda 134, (H).

*Stipa ehrenbergiana* Trin. & Rupr.(1), roadside, 1250 m, 12 x 2004, İpekci 288.Ir.-Tur., (H).

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