

Vascular Flora and Endemism of Ormanüstü Planning Unit (Maçka-Trabzon), Turkey

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Abstract

Aim of study: Aim was to determine the vascular flora of the Ormanüstü Planning Unit (Karadeniz Technical University Education-Research and Application Forest).

Area of study: The research area is under the influence of the Euro-Siberian phytogeographical region and is represented with a high rate (44%, 288 taxa). Irano-Turanian and Mediterranean elements are represented by 26 (4%) and 22 taxa (3%), respectively. Totally 320 taxa (49%) are multi-regional or of unknown origin. In addition, 33 endemic (5%), 12 rare (1.8%), 5 alien (0.8%) and 17 cosmopolitan (2.6%) taxa were identified.

Material and methods: The entire study area was visited periodically and plant samples were collected from 166 sample plots (1000 m²), and then they were pressed with wooden frames. Approximately 1800 vascular plant specimens were collected between the years 2005 and 2008 to form the floristic list.

Main results: Studies revealed the presence of 656 taxa (585 species, 62 subspecies and 9 varieties) belonging to 95 families and 354 genera. Of these, 22 taxa (3.4%) are ferns and 634 (96.6%) are seed plants. The best-represented families are as follows; Asteraceae (75), Poaceae (48) and Fabaceae (41). According to richest genera; *Campanula* (14), *Carex* (10), *Alchemilla* (9) and *Geranium* (9) have the greatest number of taxa.

Highlights: It was concluded that the study area is important in terms of plant diversity. The discovery of a new species from this area, described by us and published in 2009 (*Astragalus ansinii* Uzun, Terzioğlu & Pal.-Uzun), supports this fact.

Keywords: Vascular flora, Endemism, Colchis, Maçka, Turkey

Ormanüstü Planlama Birimi Vasküler Florası (Maçka-Trabzon), Türkiye

Öz

Çalışmanın amacı: Bu çalışmada Ormanüstü Planlama Birimi'nin (Karadeniz Teknik Üniversitesi Eğitim-Araştırma ve Uygulama Ormanı) vasküler florasını belirlemek amaçlanmıştır.

Çalışma alanı: Avrupa-Sibirya fitocoğrafik bölgesinin etkisi altındadır ve yüksek bir oranla (% 44, 288 takson) temsil edilmektedir. İran-Turan ve Akdeniz elementleri sırasıyla 26 (% 3.96) ve 22 takson (% 3.35) ile temsil edilmektedir. Toplam 320 takson (% 49) çok bölgeli veya bilinmeyen kökenlidir. Ayrıca 33 endemik (% 5), 12 nadir (% 1.8), 5 yabancı yurtlu (% 0.8) ve 17 kozmopolit (% 2.6) takson saptanmıştır.

Materyal ve yöntem: Çalışma alanının tamamı periyodik olarak ziyaret edilmiş ve 166 örnek parselden (1000 m²) bitki örnekleri toplanmış ve ardından preslenmiştir. 2005-2008 yılları arasında yaklaşık 1800 damarlı bitki örneği toplanarak floristik liste oluşturulmuştur.

Temel sonuçlar: Çalışmalar sonucunda, 95 familyaya ve 354 cinse ait 656 vasküler bitki taksonu (585 tür, 62 alttür ve 9 varyete) tespit edilmiştir. Bunlardan 22 takson (% 3.4) eğrelti otu ve 634 (% 96.6) takson ise tohumlu bitkidir. En iyi temsil edilen familyalar şunlardır; Asteraceae (75), Poaceae (48) ve Fabaceae (41). En fazla takson sayısına sahip cinsler ise; *Campanula* (14), *Carex* (10), *Alchemilla* (9) ve *Geranium* (9)'dur.

Araştırma vurguları: Çalışma alanının bitki çeşitliliği açısından önemli olduğu sonucuna varılmıştır. Bu alandan bizim tarafımızdan tanımlanan ve 2009 yılında yayımlanan yeni bir türün keşfedilmesi (*Astragalus ansinii* Uzun, Terzioğlu ve Pal.-Uzun) bu gerçeği desteklemektedir.

Anahtar Kelimeler: Vasküler flora, Endemizm, Kolşik, Maçka, Türkiye



Introduction

Flora studies constitute the main framework of biodiversity studies. Detailed flora studies in different habitat types are needed in revealing the plant biodiversity existing in the world on a global scale (Funk, 2006).

This study was carried out to determine the vascular flora and endemism of the Ormanüstü Forest Planning Unit located within the borders of Maçka Forest Enterprise of Trabzon Forestry Regional Directorate (Trabzon / Turkey) (Figure 1). This unit was defined as the education-research area for the scientific studies of the Karadeniz Technical University Faculty of Forestry (KTU) in 1985 and has been used as the education-research and application forest for the last forty years. The forest planning and management operations of this area are carried out by Maçka Forest Enterprise and KTU together (Yolasıǧmaz, 1998).

In addition to being an education-research area, the following factors were also taken into account in the selection of this area: (1) no detailed floristic study was carried out in the study area except for the limited individual plant collection directed at some species (Anşin, 1982; Hayırlıođlu-Ayaz, 1997; Coşkunçelebi, 2001) and bryophyte flora (Erata et al., 2020), (2) the idea that the area could host different plant richness due to its diversity of forest stand types, elevation zones and four aspects of the terrain (OGM, 2006), (3) possibility of integrating floristic data into existing studies (Yolasıǧmaz, 1998; Altun et al., 2002) (especially for forest management and silviculture) or combining with future studies for other disciplines.

Material and Method

Study Area

The study area lies within the boundaries of the Eastern Black Sea Region, Maçka district in Trabzon province, and is located between 40°48'45" - 40°43'25" North

latitudes and 39°36'41" - 39°28'39" East longitudes (Figure 1). This area is totally 5990 ha and surrounded by Yeşiltepe village to the north, Maçka district centre to the east, Çatak village to the west, and Hamsiköy village to the south. Kuzu Korusu Hill is the highest point of the area with 2280 m a.s.l. The eastern border of the study area is surrounded by Naldöken Hill (1179 m), Kale Tepe (1096 m) and Maçka district centre, and the western border is surrounded by Paparza, Çamlıdüz and Maçka streams. The study area, which has an average elevation of 1330 m (380-2280 m), has the characteristics of a mountainous terrain in terms of geomorphology. The northwest and the southeast are the main aspects of the study area. Vazelon monastery, built in 270 AD (Çavuş, 2016), is located within the study area (Figure 2D). This region attracts tourists from the world, as it is a spiritual tourism point. Because of its ecological integrity, the study area is located in the Caucasus Ecoregion where the biodiversity is under many threats (Olson et al., 2001; Olson & Dinerstein, 2002). The main threats in the region are the fragmentation and transformation of habitats due to agricultural activities (mostly hazelnut and tea plantations) (Palabaş-Uzun et al., 2012).

This region is one of the 200 ecological regions in the world that are designated as conservation targets by the World Wildlife Fund (WWF, 2009). The study area is also inside the Caucasus Biodiversity Hotspot. This hotspot region was defined by the International Conservation Organization (CI) and considered to be one of the 34 richest and the most threatened hotspot regions of the world (Myers et al., 2000). In addition, the study area is located within one of the 305 important nature area of Turkey named as Eastern Black Sea Mountains (coded DK005) (Eken et al., 2006).

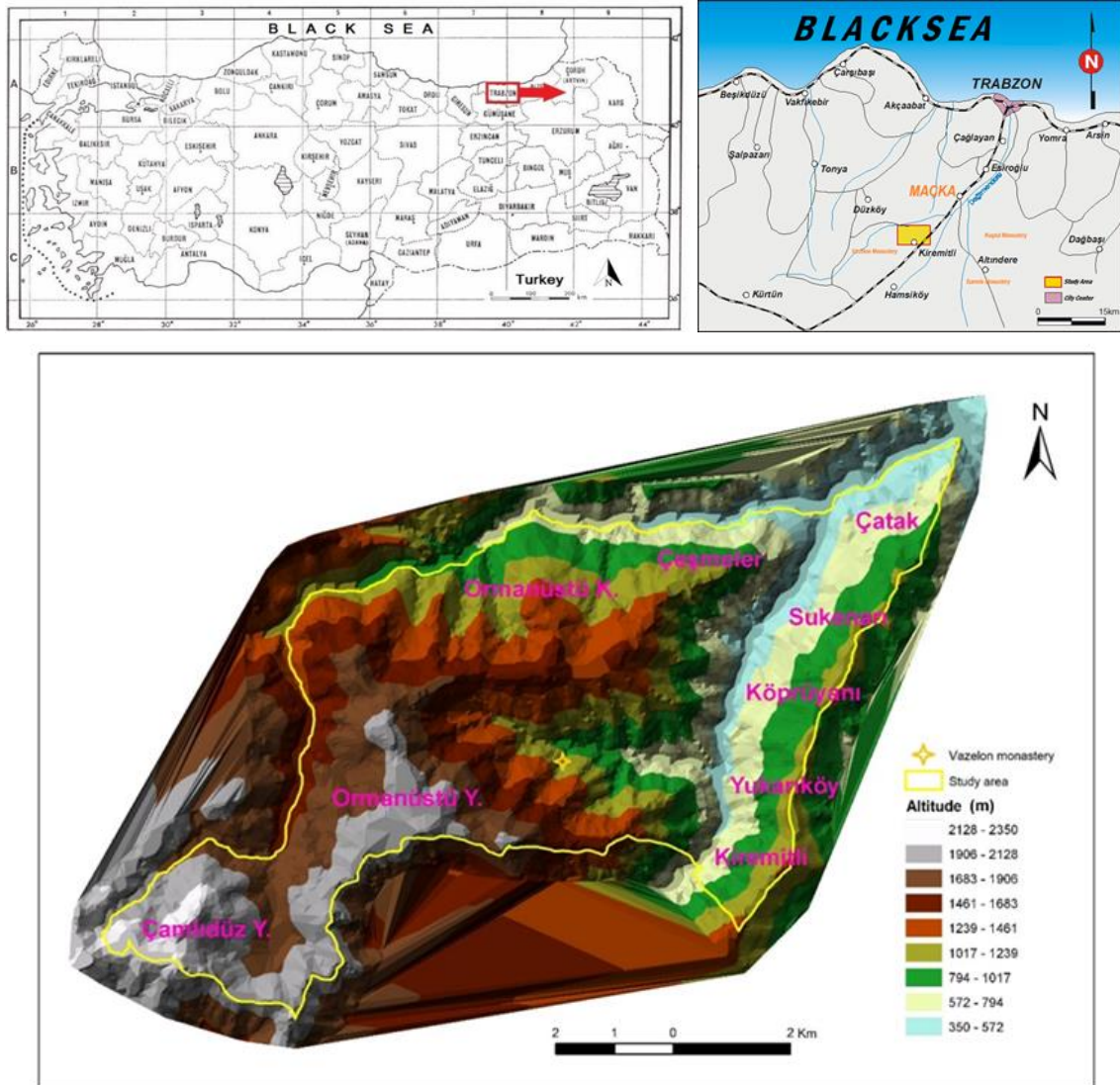


Figure 1. Map and digital elevation model of the study area

Vegetation

Of the study area; 71% is state forest and 29% is pasture, agricultural fields and settlements. Of the forest area, 48% (2883 ha) productive forest, 15% (868 ha) degraded forest, 6% (402 ha) soil suitable for forest and

2% (126 ha) afforestation area (Figure 2). (OGM, 2006). The study area is particularly diverse in terms of habitats (coniferous and deciduous forest types, forest openings, stony/rocky areas, wet habitats on the edge of the streams and also meadows and pastures).

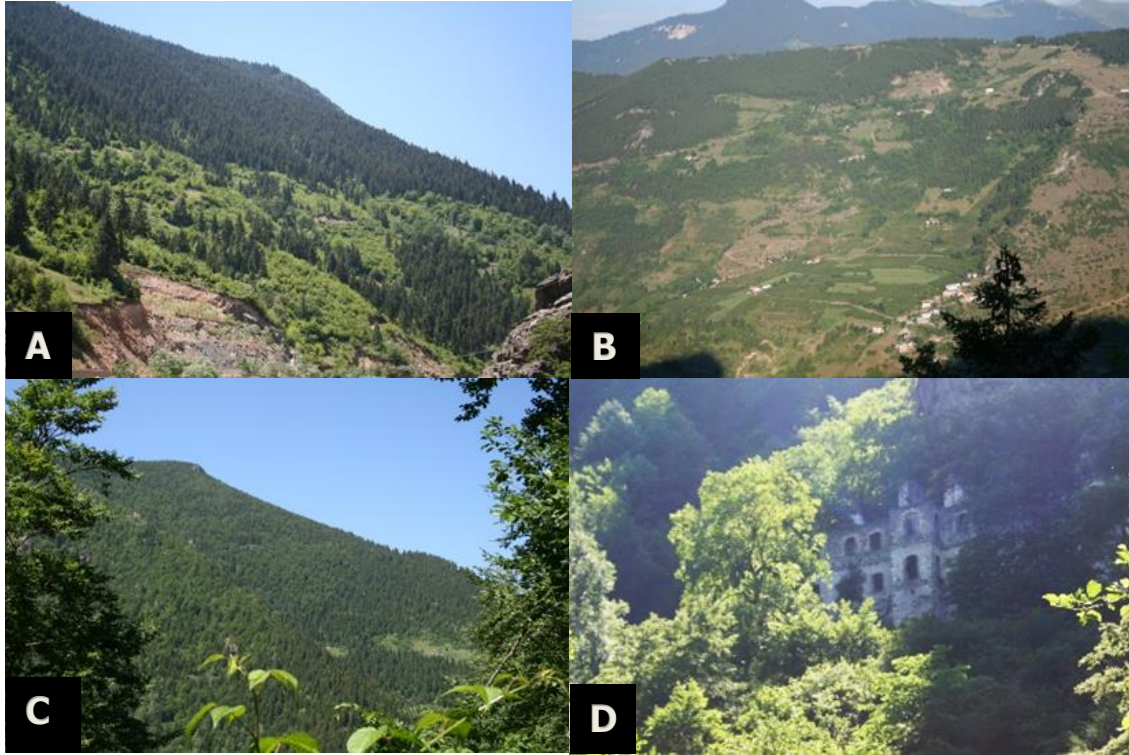


Figure 2. General views from the study area. A: Ormanüstü village with pure coniferous and mixed broadleaved forest. B: Çatak village with degraded forests and agricultural fields. C: Köprüyanı village with pure Oriental spruce (*Picea orientalis*) forest. D: Vazelon monastery ruins and its surroundings with deciduous broad-leaved Oriental beech (*Fagus orientalis*) forest.

Geology

The study area is located in the northern zone of the Eastern Pontides and four different geological formations are exposed in the field. These are from older to younger; Berdiga, Çatak, Kızılkaya and Çağlayan formations (Pelin, 1977). The units are mostly composed of alkaline volcanic, volcanoclastic and sedimentary rocks. Among which; Çatak formation is surfaced in very large areas in Çatak locality along Değirmendere Valley in the southeast of Maçka District. The formation consists of tuff, basaltic and andesitic volcanic rocks, pyroclasts and intermediate additives as, sandstone, claystone, marl (clayey limestone) and the burgundy-colored limestones (Güven, 1993).

Climate Characteristics

According to Erinç's (1969) climate classification, the study area enters mainly to the Black Sea climate region among four main climate types. However, the "very high precipitation", which is the climatic feature of this climate zone, is not available in all parts

of the study area, especially in the southern parts. In this context, the study area shows a characteristic between the Eastern Black Sea and the Central Black Sea climate types. In these areas; mild winters, hot and very rainy summer season are the characteristics of the climate (Akman, 1990). The average annual temperature was 14.7°C according to the long-term meteorological data observations (in a period of 1927-2019) by Trabzon Meteorological Station (GDM, 2021). The highest monthly average temperature was observed in August (26.5°C) and the lowest average temperature was observed in February (4.3°C). The total average annual rainfall was 829.6 mm, monthly highest in Sept. (115.4 mm), while the lowest in July (35.6 mm). According to the evaluations made, it is relatively dry from mid-June to the end of August, while other months are quite rainy. Therefore, it can be said that it is under the influence of Subméditerranéen according to Bagnouls & Gausson (1957) method (Figure 3).

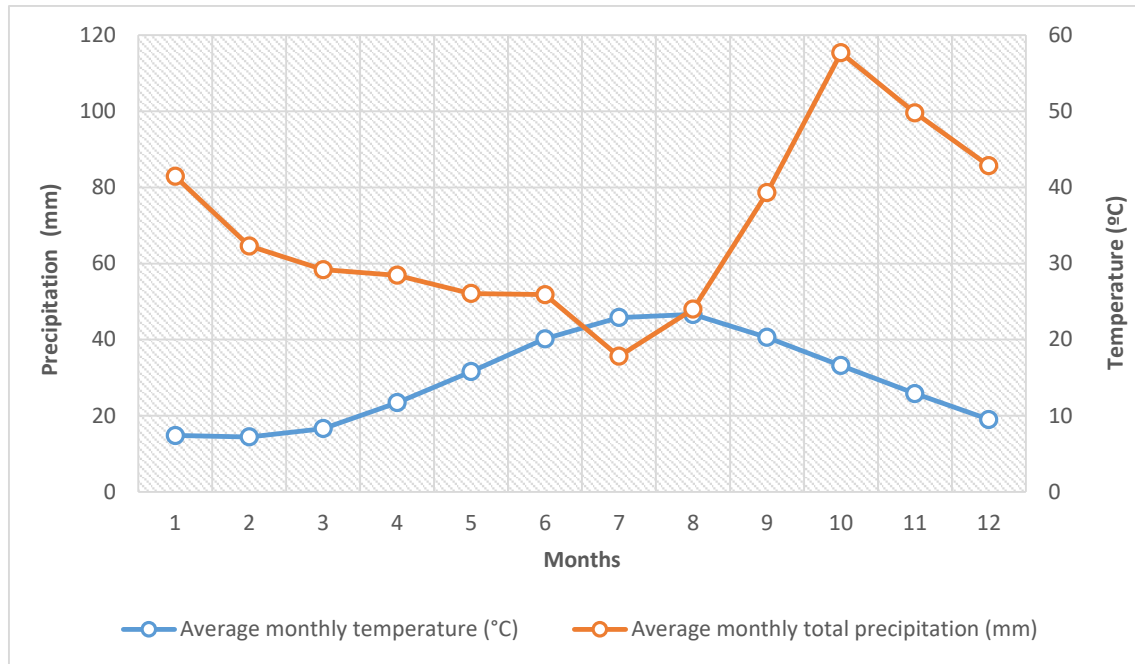


Figure 3. Climatic diagram according to Bagnouls and Gaussen (1957) (Trabzon Meteorological Station, period of 1927-2019)

Soil Characteristics

The lands of the Eastern Black Sea Region, including the study area, are in the "Podzolic Soil" group among the eight major soil groups in the region (Topraksu Genel Müdürlüğü, 1981). Öztan (1980) explains the soil change in Değirmendere basin of the Eastern Black Sea Region as follows; dominant red-yellow Podzolic soils between sea level and 750 m altitude, dominant gray-brown Podzolic soils at altitudes of 750-1750 m, and dominant high mountain-meadow soils above 1750 m. According to another study carried out in Trabzon region, neutral and basic magmatic bedrock or on the limestone pseudomacchie soils develop a mull type of humus, these soils are usually in clay loam and slime texture, the reaction of limited acidic, soil washing degree is limited, cation exchange capacity is moderate or high, as reported by Irmak (1974).

Flora Studies

Materials of the study consisted of collected vascular plant specimens, standard topographic maps with a scale of 1/25000 and stand types map of the region's Forest Management Plan. These stands were used to obtain the digital terrain model of the study area.

Approximately 1800 vascular plant specimens were collected with their roots, stems, leaves, flowers and/or fruits between the years 2005 and 2008 to form the floristic list. A satisfactory material is a sample from a large population with normal habitus with fully matured flowers and ripe fruits. These characteristics are important in terms of full life conditions and changing characteristics of the taxa (Yaltrık & Efe, 1996; Özer et al., 1998). These plant specimens were dried in accordance with standard herbarium techniques and made ready for identification. After identifications, plant samples were placed at KATO Herbarium (Karadeniz Technical University, Faculty of Forestry) with at least one duplicate sample (Thiers, 2020).

The entire study area was visited periodically and plant samples were collected from 166 sample plots (1000 m²), and then they were pressed with wooden frames. Plants collected around the sample plots were also added to the floristic list. Many plant samples from different habitat types and elevation levels were collected even if they belong to the same species. As it is known, although plant species have the same phenotype, they

may show systematically important variations according to elevation or habitat types. The identification of these plants with these characteristics is important in terms of completing the floristic study, revealing the variations and determining the taxonomic richness. A label indicating the place where the plant was collected (name of the province, district, neighbourhood, village or plateau), habitat type (forest, rocky place, meadow, swamp etc.), collection date, altitude and collector ID were written on a label for each plant samples.

Floristic List

Main flora reference of the country ‘Flora of Turkey and The East Aegean Islands’, was used for identification of plant specimens (Davis 1965-1985; Davis et al., 1988; Güner et al., 2000). Following references were also consulted: Flora Orientalis (Boissier, 1867-88), Flora USSR (Komarov, 1934-78), Flora Europaea (Tutin et al., 1964-80 & 1993) and Flora Iranica (Rechinger, 1965-1977), illustrated plant atlases such as Bonnier (1912-34), Phillips (1994), Fitter et al. (2000), Hegi et al. (1977); a glossary of terminology (Baytop, 1998), taxonomic revisions, updated check-lists and typifications (Hayırlıoğlu-Ayaz, 1997; Speta, 1998; Coşkunçelebi, 2001; Coşkunçelebi & Beyazoğlu, 2003; Güner, 2006; Thulin et al., 2009; Zidorn 2012; Frajman et al., 2013; Wang, 2014; Banasiak et al., 2016; Moore & Dillenberger, 2017; Bartolucci et al., 2018; Farjon, 2018; Gutiérrez-Larruscain et al., 2019; Akçiçek 2020; WCSP, 2020), and recent molecular phylogenetic studies (PPG I, 2016; Wei et al., 2017, Roma-Marzio et al., 2017). We also investigated pertinent flora studies such as Palabaş-Uzun & Anşın (2006), Palabaş-Uzun & Terzioğlu (2019).

Some unidentified plant specimens were compared with those in the herbaria KATO, ANK and GAZI. In addition to the main flora works, many other studies on current taxonomic measurements or arrangements related to some genera, species, subspecies and varieties have been examined and evaluated (Kaya, 2003; Coşkunçelebi & Beyazoğlu, 2001; Hayırlıoğlu-Ayaz &

Beyazoğlu, 2002; Hayırlıoğlu-Ayaz & Kalheber, 2002; Coşkunçelebi, 2003; Kučera et al., 2006; Al-Shehbaz et al., 2007; Bräutigam & Greuter, 2007; Karaer & Celep, 2008).

As stated by Anşın (1980, 1983), making a list containing many features of taxa determined to reveal flora is useful for any research related to conservation, technical forestry and ecology in the region. For this purpose, the categories of taxa identified are given in a systematic list, while taxa belonging to ferns and fern allies are given according to PPG I (2016), taxa belonging to *Gymnosperms* are classified according to Farjon (1998; 2nd ed. 2001) and *Angiosperms* (subsections, classes, orders and families) are listed according to APG IV 2016 system (Chase et al., 2016) with the exception of Dipsacales (Reveal, 2011), Caryophyllales (Hernandez-Ledesma et al., 2015) and Boraginales (Luebert et al., 2016). The genera and taxa order in Turkish flora was applied for the present flora list. The author citations of plant names were standardized following the Rec. 46A Note 1 of the ICN (McNeill et al., 2012), i.e. according to IPNI (2012 onwards). Furthermore, the common Turkish or local names of the taxa were given according to Baytop (1994). The floristic list was updated using the recent checklist of the Turkish flora (Güner et al., 2012) and the taxonomic databases such as Euro+Med. Plant Base (2006 onwards) and The Plant List (2013 onwards). The accepted names were given with their synonyms or basionyms that in bracket.

In the floristic list, scientific names were given together with taxonomic categories. Family, genus, species, subspecies and varieties were numbered in order for convenience. In addition, phytogeographical regions of known ones and KATO numbers were added to the floristic list. Also, cosmopolitan, alien (exotic) and parasitic taxa were specified as the characteristics of the study area.

Since the study area stayed within the A7 square according to Davis's (1965) grid system and in the Maçka district of Trabzon province, these expressions were not included in the floristic list in order to avoid repetition.

To shed light on nature conservation studies, endemic and rare taxa are listed together with IUCN threat categories (Ekim et al., 2000; IUCN, 2001). In addition, the species in the BERN and CITES annexes are specified for the study area (Inskipp & Gillett, 2005; BERN Convention, 1979). It is also very important to note the field observations and experiences in order to form a basis for conservation studies (Lambeck, 1997). For this purpose, the field observations supported by the density information of the endemic and rare taxa were given in accordance with the scale given below (Table 1).

Table 1. Scale of estimated population density

Dense	
DW:	Dense-widespread population
DP:	Dense-partially distributed population
DL:	Dense-localized population
Sparse	
SW:	Sparse-widespread population
SP:	Sparse-partially distributed population
SL:	Sparse-localized population

UTM coordinates (based on the WGS84 Datum) of the endemic and rare taxa were

gathered using GPS device (Geographic positioning system) in the field. The obtained location points were transferred to ArcView module of Arc / Info software and shown in the digital terrain model created by ArcView (Figure 7). In this way, it is aimed to have more information about the structure of the terrain where endemic taxa are located. As well, it was predicted that this information could constitute a basis for the creation of species maps.

Results

Numerical Analysis of the Flora

A total of 656 vascular plant taxa (585 species, 62 subspecies and 9 varieties) belonging to 95 families and 354 genera in *Pteridophyta* and *Spermatophyta* sections were identified in the study area. Of these, *Pteridophyta* has 22 taxa (3.4%) belonging to 10 families and 12 genera, while *Spermatophyta* has 634 taxa (96.6%) belonging to 85 families and 337 genera. The distribution of these taxa to taxonomic units is shown in Table 2.

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

	Families	Genera	Species	Subsp.	Var.	Taxa*	Endemic	Rare
Pteridophyta (a)	10	12	22	-	-	22	-	-
Spermatophyta (b)	85	342	563	62	9	634	33	12
Gymnosperms	3	5	5	-	1	6	-	-
Angiosperms	82	337	558	62	8	628	33	12
Magnoliids	1	1	1	-	-	1	-	-
Monocots	14	61	93	11	-	104	3	3
Eudicots	67	275	464	51	8	523	30	9
Total (a+b)	95	354	585	62	9	656	33	12

*Including the lower taxa of the genera

Of the 628 taxa of Angiospermae, one of which (0.16%) belongs to Magnoliids, 104 (16.56%) Monocots and 523 (83.28%) Eudicots. Proportional distribution of the taxa

belonging to these systematic groups are given below at the ordo level (Figures 4 and 5).

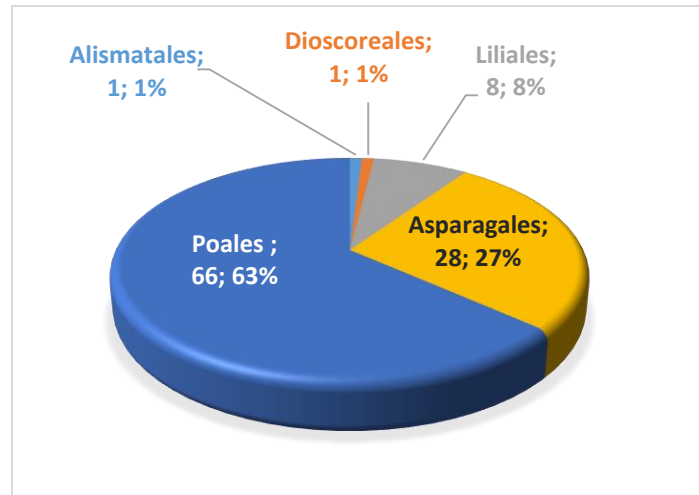


Figure 4. Proportional distribution of Monocots

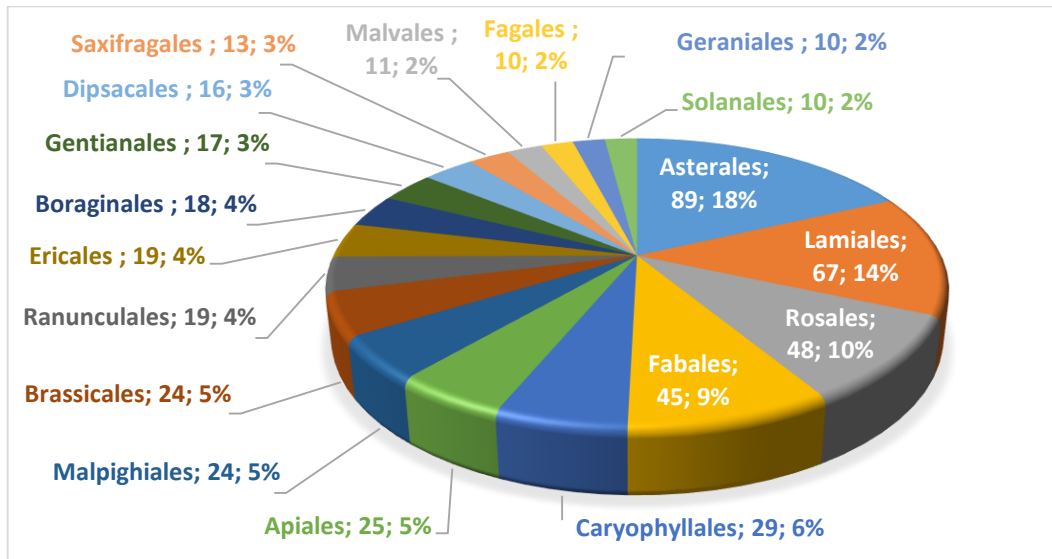


Figure 5. Proportional distribution of Eudicots

The most represented families and genera among the 95 families in terms of taxa richness are given in Table 3. Proportional comparison of leading families with the flora of Turkey is given in Figure 6.

Further analysis demonstrates the presence of 354 genera. Of these, *Campanula* (14), *Carex* (10), *Alchemilla* (9) and *Geranium* (9) have the greatest number of taxa (Table 3).

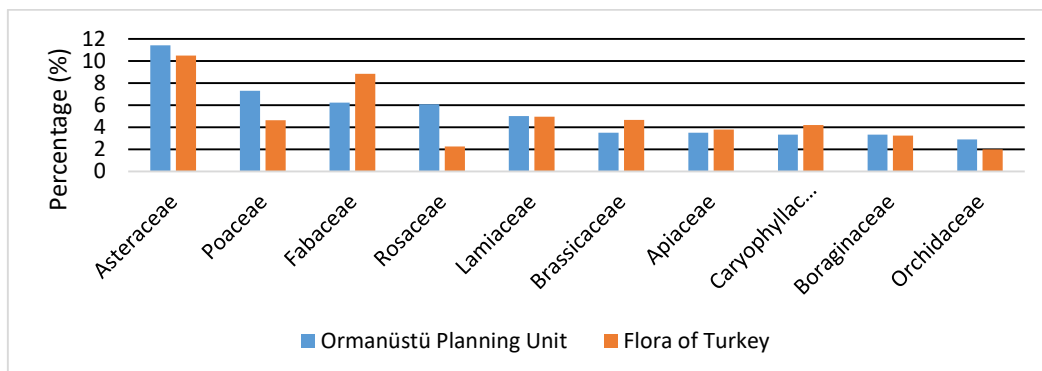


Figure 6. Comparison of plant families of the present study with flora of Turkey

Table 3. Most represented families (>10 taxa) and genera (≥ 5 taxa) of the native vascular flora

Families	Taxa	Genera	Taxa
Asteraceae	75	<i>Campanula</i> L.	14
Poaceae	48	<i>Carex</i> L.	10
Fabaceae	41	<i>Alchemilla</i> L.	9
Rosaceae	40	<i>Geranium</i> L.	9
Lamiaceae	33	<i>Veronica</i> L.	8
Brassicaceae	23	<i>Trifolium</i> L.	7
Apiaceae	23	<i>Euphorbia</i> L.	7
Caryophyllaceae	22	<i>Myosotis</i> L.	7
Boraginaceae	18	<i>Pilosella</i> Hill.	7
Orchidaceae	15	<i>Medicago</i> L.	6
Campanulaceae	14	<i>Clinopodium</i> L.	6
Ranunculaceae	13	<i>Dryopteris</i> Adans.	5
Plantaginaceae	13	<i>Poa</i> L.	5
Caprifoliaceae	12	<i>Ranunculus</i> L.	5
Primulaceae	11	<i>Sedum</i> L.	5
Orobanchaceae	11	<i>Astragalus</i> L.	5
Total	412	Total	115

The phytogeographical regions of 336 taxa (51.22%) were able to determine. Of these; 288 taxa (43.90%) are Euro-Siberian element, 26 taxa (3.96%) are Irano-Turanian element

and 22 taxa (3.36%) are Mediterranean element (Table 4). Mediterranean phytogeographical region is poorly represented in the study area.

Table 4. Numerical and proportional distributions of determined taxa according to the phytogeographical regions

Phytogeographical regions	Taxa number	Ratio (%)		Taxa number	Ratio (%)	
		Flora*	PhR**		Flora*	PhR**
Euro Siberian	153	23.32	45.54	288	43.90	85.71
Euro Siberian (mt.) element	2	0.30	0.60			
Euxine element	92	14.02	27.38			
Euxine (mt.) element	22	3.35	6.55			
Hyrcano-Euxine element	13	1.98	3.87			
Hyrcano-Euxine (mt.) element	6	0.91	1.79			
Irano-Turanian	26	3.96	7.73	26	3.96	7.74
Mediterranean	21	3.20	6.25	22	3.36	6.55
Mediterranean (mt.) element	1	0.16	0.30			
Sub-total (Determined)	336	51.22	100	-	-	
Multi regional or unknown origin	320	48.78		320	48.78	
General Total	656	100		656	100	100

Flora*: Ratio according to total flora in the study area (n= 656)

PhR**: Ratio according to the number of taxa known phytogeographical region (n= 336)

Five alien species (0.76%) were collected in the study area (Uludağ et al., 2017). In addition, 17 cosmopolitan taxa (2.59%) were determined in the study area.

were identified and IUCN (2001) threat categories were indicated (Table 6).

Endemic and Rare Plants

Thirty-three endemic plants were found in the study area and the ratio of endemism is 5% (Table 5). In addition, 12 rare taxa (1.82%)

Table 5. IUCN threat categories and observed population densities of endemic taxa

IUCN Categories	Taxa	Family	Observed Population Density
CR	<i>Astragalus ansinii</i>	<i>Fabaceae</i>	SL
EN	<i>Alchemilla ikizdereensis</i>	<i>Rosaceae</i>	SL
EN	<i>Astragalus ovatus</i>	<i>Fabaceae</i>	DL
VU	<i>Hieracium gentiliforme</i>	<i>Asteraceae</i>	SP
NT	<i>Symphytum sylvaticum</i> subsp. <i>sepulcrale</i>	<i>Boraginaceae</i>	SW
NT	<i>Cirsium trachylepis</i>	<i>Asteraceae</i>	DP
NT	<i>Lilium ciliatum</i>	<i>Liliaceae</i>	SL
NT	<i>Festuca amethystina</i> subsp. <i>orientalis</i> var. <i>turcica</i>	<i>Poaceae</i>	DP
NT	<i>Cyclamen parviflorum</i> var. <i>subalpinum</i>	<i>Primulaceae</i>	DP
NT	<i>Melampyrum arvense</i> var. <i>elatius</i>	<i>Scrophulariaceae</i>	DL
NT	<i>Sempervivum armenum</i> var. <i>armenum</i>	<i>Crassulaceae</i>	SL
NT	<i>Centaurea helenioides</i>	<i>Asteraceae</i>	SL
LC	<i>Veronica multifida</i>	<i>Scrophulariaceae</i>	DL
LC	<i>Galium fissurense</i>	<i>Rubiaceae</i>	DW
LC	<i>Epipactis turcica</i>	<i>Orchidaceae</i>	SL
LC	<i>Cyclamen parviflorum</i> var. <i>parviflorum</i>	<i>Primulaceae</i>	DP
LC	<i>Phlomis russeliana</i>	<i>Lamiaceae</i>	SP
LC	<i>Onobrychis armena</i>	<i>Fabaceae</i>	SL
LC	<i>Astragalus viridissimus</i>	<i>Fabaceae</i>	SP
LC	<i>Geranium ibericum</i> subsp. <i>jubatun</i>	<i>Geraniaceae</i>	SP
LC	<i>Geranium sintenisii</i>	<i>Geraniaceae</i>	SP
LC	<i>Cerastium armeniacum</i>	<i>Caryophyllaceae</i>	SL
LC	<i>Dianthus carmelitarum</i>	<i>Caryophyllaceae</i>	DW
LC	<i>Arenaria kotschyana</i> subsp. <i>kotschyana</i>	<i>Caryophyllaceae</i>	SL
LC	<i>Lonicera orientalis</i>	<i>Caprifoliaceae</i>	DW
LC	<i>Campanula betulifolia</i>	<i>Campanulaceae</i>	SL
LC	<i>Onosma bornmuelleri</i>	<i>Boraginaceae</i>	SL
LC	<i>Hieracium karagoellense</i>	<i>Asteraceae</i>	SL
LC	<i>Centaurea urvillei</i> subsp. <i>stepposa</i>	<i>Asteraceae</i>	SL
LC	<i>Cirsium sommieri</i>	<i>Asteraceae</i>	SP
LC	<i>Astrantia maxima</i> subsp. <i>haradjianii</i>	<i>Apiaceae</i>	SL
LC	<i>Heracleum platytaenium</i>	<i>Apiaceae</i>	DP
DD	<i>Hieracium subsilvularum</i>	<i>Asteraceae</i>	SL

Table 6. Rare taxa and IUCN threat categories

IUCN Categories	Taxa	Family	Observed Population Density
EN	<i>Lilium monadelphum</i> var. <i>armenum</i>	<i>Liliaceae</i>	SW
VU	<i>Ranunculus bulbosus</i> subsp. <i>aleae</i>	<i>Ranunculaceae</i>	SP
VU	<i>Alchemilla speciosa</i>	<i>Rosaceae</i>	DL
VU	<i>Alchemilla orthotricha</i>	<i>Rosaceae</i>	DP
VU	<i>Alchemilla holotricha</i>	<i>Rosaceae</i>	SP
VU	<i>Myosotis lazica</i>	<i>Boraginaceae</i>	SP
VU	<i>Ruscus colchicus</i>	<i>Liliaceae</i>	DP
VU	<i>Galanthus rizehensis</i>	<i>Liliaceae</i>	DP
VU	<i>Osmanthus decorus</i>	<i>Oleaceae</i>	SP
VU	<i>Anemone caucasica</i>	<i>Ranunculaceae</i>	DP
VU	<i>Seseli petraeum</i>	<i>Apiaceae</i>	SL
DD	<i>Laserpitium affine</i>	<i>Apiaceae</i>	SP

Taxa in BERN and CITES Lists

With these international agreements, it is aimed to protect the species that are traded in the world or that may be under threat if protection measures are not taken. For this purpose, separate lists have been prepared for both treaties. The main goal is to protect the

habitats with taxa in these lists and to prevent their international trade (Inskipp & Gillett, 2005; WWF, 2009). Plant taxa determined in the study area according to the BERN (the shape formed with the supplements made in 1996 and 1997) and CITES lists are given in Table 7.

Table 7. Plant taxa in appendix of BERN convention and CITES list

Family	Taxa	BERN flora list	CITES flora list	Observed Population Density
Ericaceae	<i>Vaccinium arctostaphylos</i>	+	-	DP
Primulaceae	<i>Cyclamen coum</i> subsp. <i>coum</i>	+	+	DP
Primulaceae	<i>Cyclamen coum</i> subsp. <i>caucasicum</i>	+	+	DP
Primulaceae	<i>Cyclamen parviflorum</i> var. <i>parviflorum</i>	-	+	DP
Primulaceae	<i>Cyclamen parviflorum</i> var. <i>subalpinum</i>	-	+	DP
Liliaceae	<i>Galanthus rizehensis</i>	-	+	DP
Orchidaceae	<i>Ophrys oestrifera</i>	+	-	SL
Orchidaceae	<i>Cephalanthera damasonium</i>	-	+	SP
Orchidaceae	<i>Orchis simia</i>	-	+	SL
Orchidaceae	<i>Orchis tridentata</i>	-	+	DP
Orchidaceae	<i>Anacamptis pyramidalis</i>	-	+	DP

(+) presence, (-) absence

Discussion

Invasions of alien species have negative impacts across several sectors such as agriculture, tourism, forestry, fishery, human health, water, and irrigation including artificial and natural habitats (Kariyawasam, 2019; Terzioğlu, 2020). These species have invasive tendency to naturalize and destructive effects on the natural food chain. Early growth is a predominant trait due to their early seed formation properties. They hamper the vitality of the natural species in the region and decrease biodiversity (Terzioğlu & Anşın, 2001). They can change the entire habitat and put the ecosystem at risk. They are also considered as the driving force of recent extinctions (Bellard et al., 2016).

The ratio of alien plants in the study area is very low (0.76%), that is compatible with the ratio (0.8%) of the nearby study (Uzun & Terzioğlu, 2008). The study area mostly consists of closed shady forest areas, offering relatively less suitable areas for alien plants, also has unsuitable habitat conditions at high elevations, and low light intensity due to the closed forest cover causes native plants to limit the entry of other alien plants into the forests (Mavimbela et al., 2018). Compared

with the total alien flora of Turkey (2.9%; 340 alien plants against 11,707 total flora) there was also no significant difference (Güner et al., 2012; Uludağ et al., 2017).

Robinia pseudoacacia and *Ailanthus altissima* are the most worrisome woody taxa found in the study area. Since they are tree species, they can remain in the area where they are established for a long time and act as a bank of seed (Gioria et al., 2012). Less worrying taxa in the area are *Erigeron canadensis* and *Erigeron annuus*. These taxa are less important because they are annual and high light demanding plants and they cannot get into the forest ecosystems easily due to low light availability. The last of the alien species identified in the study area is *Opuntia ficus-indica*. It was observed in the area where this taxon was first brought for garden design but then spread to surrounding areas. This taxon is spread by its tubers. For this reason, it is considered that it may pose a threat to the native plant species in the region. Compared to other alien plants in Turkey, the above-mentioned tree species seem to be the most common species in forest ecosystems in the Black Sea Region (Terzioğlu & Anşın, 2001). This is because *Robinia pseudoacacia* has

been planted on forest roadsides for many years as part of forestry (Kalay, 1987).

Cosmopolitan taxa show wide ecological tolerance and can produce new individuals that can even spread long distances. Of those worth to mention; *Tanacetum parthenium*, *Cichorium intybus*, *Capsella bursa-pastoris*, *Convolvulus arvensis*, *Verbena officinalis*, *Datura stramonium*, *Solanum nigrum*, located at road sides and openings, while *Trifolium pratense*, *Vicia sativa*, *Cerastium fontanum*, *Silene gallica*, at meadow areas, *Veronica anagallis-aquatica*, *Polygonum aviculare*, *Juncus effusus*, *Juncus bufonius*, spread in humid-wet habitats. *Galium aparine* is found as a climber on other species.

Güner et al. (2012) states that some taxa which we included in our study are no longer endemic to the country, based on recent research and new taxonomic information from neighbouring countries. However, we found it appropriate to include these taxa in the endemic list due to their narrow global population. These taxa are as follows; *Veronica multifida*, *Centaurea urvillei* subsp. *stepposa*, *Heracleum platytaenium*, *Astragalus ovatus*, *Lamium ponticum*. Actually, it would be more meaningful to evaluate these taxa, which are omitted from the endemic list of Turkey, in the rare category if they are not synonymous.

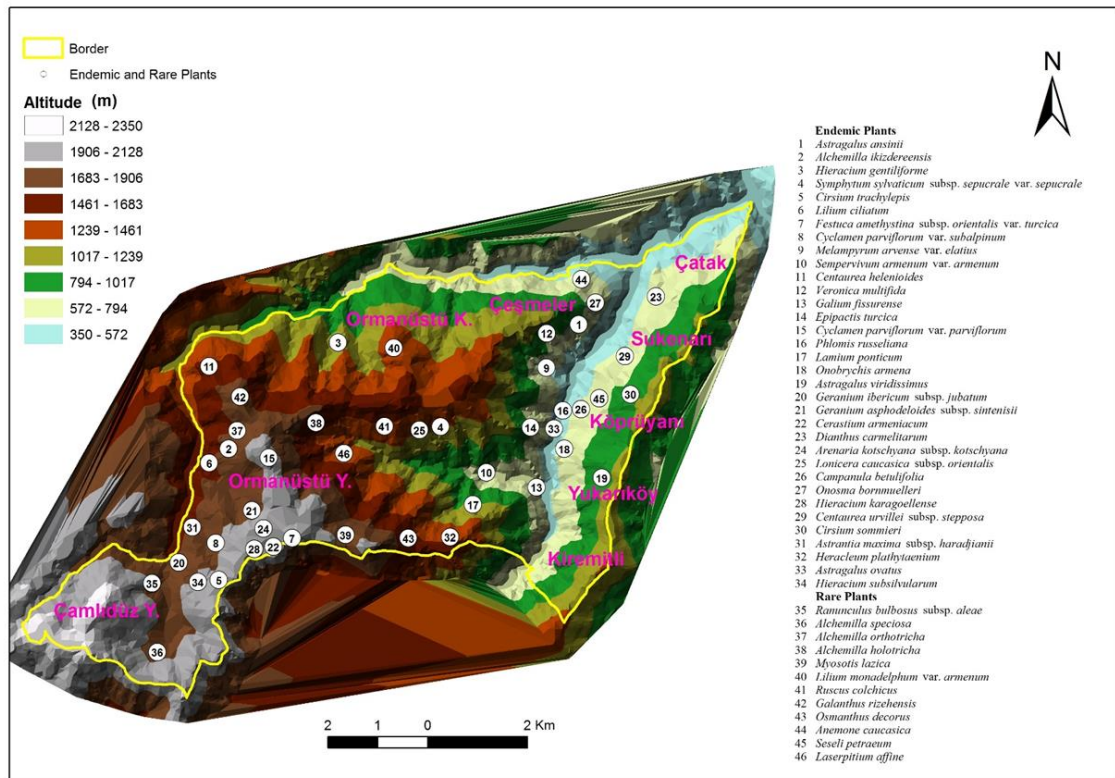


Figure 7. Localities of endemic and rare taxa

Plant endemism in the present study was found at a very low ratio (5%). As the main reasons, high rainfall and dense closed forests limit the endemism in the Black Sea Region, especially in the eastern side "Colchis as a term" (Anşin, 1983). Floristic studies conducted in the Eastern Black Sea Region reveal that the endemism ratio in the coastal areas of the Eastern Black Sea Mountains varies between roughly 3-9%. E.g; It is 3.2%

in Palabaş-Uzun & Terzioğlu (2019), 4.2% in Uzun & Terzioğlu (2008), 5.3% in Demir & Atamov (2019) and 8.3% in Palabaş-Uzun & Anşin (2006). In the terrestrial parts of the mountains, the endemism ratio exceeds 10%. E.g; 10.03% in Karaer & Kılınc (2001). It is estimated that there are approximately 500 endemic taxa in the Black Sea region (Anşin, 1982). Türe & Bökük (2010) also reported that

the ratio of endemism is 5% in the entire Euro-Siberian area of Turkey.

The majority of endemic plants in the present study are in the Least Concern (LC) threat category (IUCN, 2001). Besides, eight (8) taxa were determined in the Near Threatened (NT) category. Populations of *Lilium ciliatum* and *Centaurea helenioides* were determined from the only one locality considering the distribution of these taxa in the study area. The threat category of *Lilium ciliatum*, which is in NT according to Ekim et al. (2000), was later suggested as EN in a revision study (İkinci, 2005). Our field observations support the last amendment. *Melampyrum arvense* var. *elatius*, *Cyclamen parviflorum* var. *subalpinum* and *Cirsium trachylepis* are the densest taxa in the study area for NT category.

Hieracium gentiliforme is in the Vulnerable (VU) threat category and its narrow populations are fragmented in forest patches. It was found in three sub-localities dominated by Oriental spruce (*Picea orientalis*) between the elevations of 1614-1940 m. *Alchemilla ikizdereensis* is in the Endangered (EN) threat category and populations of this species are at risk of extinction in the near future. The newly discovered *Astragalus ansinii* is in the Critically Endangered (CR) threat category (CR: B2b (ii, iv)), which at risk of extinction in a very close future. It is still known from two close subpopulations in the degraded pseudomacchie vegetation of the study area, with Medit.-Euxine shrubs and short trees (Uzun et al., 2009). Habitat loss and fragmentation are two biggest threat that will cause this taxon to disappear in near future. Tourism intensity is another threat to many species because the area has high religious / cultural sites such as the Vazelon monastery.

Two taxa, which are in the Data Deficient (DD) category according to Ekim et al. (2000), were re-collected in this study and new information was obtained (IUCN 2001). The first one; *Astragalus ovatus* was re-collected more than 100 years later after Sintenis, in a low-elevation stony-meadow areas in only of pseudomacchie vegetation in the study area. Its population is dense but local throughout the study area. The threat category of this species was (DD) firstly, then changed

to (EN) by Ekici (2010). We also approve this amendment. The second one was *Hieracium subsilvularum*. This taxon was determined at 1710 m in mixed old forest stands consisting of Oriental spruce (*Picea orientalis* (L.) Link.) and Oriental beech (*Fagus orientalis* Lipsky) trees. VU category is appropriate for this taxon, which is thought to be affected by intensive forestry activities.

Most of the rare taxa identified in this study are in the Vulnerable (VU) threat category. Rare plants, which is also known from neighbouring countries, are the taxa whose populations are thought to be threatened in the future (Table 6). However, evaluations in Red Data Book of Turkish Plant (Ekim et al., 2000) was mostly made according to the distribution and population status in Turkey. Therefore, it is necessary to re-evaluate the existing threat categories according to IUCN (2001) criteria both on a spatial and numerical scale. In this regard, İkinci (2005) had previously proposed a change of the threat category of *Lilium monadelphum* var. *armenum* from VU to EN. However, this taxon now is accepted as *Lilium armenum*, which distribute in the Transcaucasian countries (Azerbaijan + Armenia + Georgia) and in Turkey.

Eleven taxa that are included in the annexes of BERN and CITES conventions have been identified in the study area. Four of them (*Vaccinium arctostaphylos*, *Cyclamen coum* subsp. *coum*, *Cyclamen coum* subsp. *caucasicum*, *Ophrys oestrifera*) are in the appendix of BERN convention and the protection activities regarding the critical habitats of these species are guaranteed by this agreement. Nine taxa from the study area are listed in the CITES annexes (*Cyclamen coum* subsp. *coum*, *Cyclamen coum* subsp. *caucasicum*, *Cyclamen parviflorum* var. *parviflorum*, *Cyclamen parviflorum* var. *subalpinum*, *Galanthus rizehensis*, *Cephalanthera damasonium*, *Orchis simia*, *Orchis tridentata*, *Anacamptis pyramidalis*). For these taxa, illegal uprooting and collection activities, if any, should be prevented. Forest engineer carrying out conservation activities in the field should be informed in this regard. For this, primarily the materials such as brochures and posters should be provided to the interest groups to recognize these taxa and

necessary warnings should be made especially for local and touristic people for the protection of these species.

Conclusions

This study contributes to understanding the floristic structure of the Colchis sector (east of the Euxine phytogeographical region) and it has been concluded that the study area is also important in terms of plant diversity within the Colchic region. The discovery of a new species (*Astragalus ansinii* Uzun, Terzioğlu & Pal.-Uzun) from the study area supports this fact. This also shows that detailed flora studies are still needed for the protection of world plant biodiversity.

Determining the plant richness and diversity in an area is primarily necessary for transferring the assets of natural plant taxa to future generations, protecting and surviving target plants that require conservation measures, functional forest planning and management, silvicultural practices and even for beekeeping efforts.

Degraded broad-leaved forest stands in rocky and stony places provided a suitable growing condition for many endemic species in the study area. For this reason, such areas should be considered as plant refugia and destructive activities such as clear-cutting, vegetation cleaning and afforestation using foreign-origin trees should be avoided.

In all kinds of technical activities in the study area, target plant species such as *Astragalus ansinii*, *A. ovatus*, *Lilium ciliatum*, *Cyclamen parviflorum*, *Hieracium gentiliforme*, *Hieracium subsilvularum*, *Osmanthus decorus* (relict) and *Epipactis turcica* should be protected.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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APPENDIX (FLORISTIC LIST)

FERN AND FERN ALLIES

Equisetales DC. ex Bercht. & J.Presl

F1 [1]. Equisetaceae

1. *Equisetum* L. – At kuyruğu

1. *Equisetum arvense* L.

Sukenarı district, damp creek side, 640 m, 07.07.2008, Uzun 1116 (KATO: 17481).

2. *Equisetum telmateia* Ehrh.

Köprüyanı district, forest edge damp place, 1150 m, 11.07.2007, Uzun 967 (KATO: 17482).

Ophioglossales Link

F2 [2]. Ophioglossaceae

2. *Botrychium* Sw

3. *Botrychium lunaria* (L.) Sw.

Ormanüstü plateau, grassy place, 1880 m, 10.06.2005, Uzun 618 (KATO: 17483).

Polypodiales Link

F3 [3]. Pteridaceae

3. *Adiantum* L.

4. *Adiantum capillus-veneris* L.

Çatak, rock cracks, 400 m, 11.07.2008, Uzun 1402 (KATO: 17484).

F4 [4]. Dennstaedtiaceae

4. *Pteridium* Gled. Ex Scop.

5. *Pteridium aquilinum* (L.) Kuhn – Kartal eğreltisi

Köprüyanı district, degraded spruce forest, 1017 m, 08.07.2008, Uzun 1273 (KATO: 17485).

F5 [5]. Cystopteridaceae

5. *Cystopteris* Bernh.

6. *Cystopteris fragilis* (L.) Bernh.

Ormanüstü village, in forest, 1691 m, 16.07.2008, Uzun 1572 (KATO: 17500).

F6 [6]. Aspleniaceae

6. *Asplenium* L.

7. *Asplenium trichomanes* L. subsp. *trichomanes*

Ormanüstü village, in forest, 1479 m, 12.07.2008, Uzun 1441 (KATO: 17488).

8. *Asplenium adiantum-nigrum* L. subsp. *adiantum-nigrum* – Baldırıkara

Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1117 (KATO: 17489); Ormanüstü village, in forest, 1479 m, 12.07.2008, Uzun 1442 (KATO: 17490); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1454 (KATO: 17491); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1813 (KATO: 17492).

*9. *Asplenium cuneifolium* L.

Ormanüstü village, in forest, 1360 m, 10.07.2008, Uzun 1361 (KATO: 17493); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1814 (KATO: 17494).

10. *Asplenium scolopendrium* L. (syn.: *Phyllitis scolopendrium* (L.) Newman) – Geyikdili eğreltisi

Ormanüstü village, damp places in forest, 1350 m, 10.05.2005, Uzun 557 (KATO: 17495).

F7 [7]. Athyriaceae

7. *Athyrium* Roth

11. *Athyrium filix-femina* (L.) Roth

Köprüyanı district, in forest, 977 m, 11.07.2008, Uzun 1403 (KATO: 17496); Ormanüstü village, in forest, 1647 m, 15.07.2008, Uzun 1537 (KATO: 17497); ibid., 1098 m, 24.07.2008, Uzun 1728 (KATO: 17498).

12. *Athyrium distentifolium* Tausch ex Opiz (syn.: *Athyrium alpestre* (Hoppe) T.Moore) Ormanüstü village, open forest, 1639 m, 15.07.2008, Uzun 1538 (KATO: 17499).

F8 [8]. Thelypteridaceae

8. *Phegopteris* (C. Presl) Fée

13. *Phegopteris connectilis* (Michx) Watt (syn.: *Thelypteris phegopteris* (L.) Sloss.)

Ormanüstü village, in forest, 1085 m, 10.07.2008, Uzun 1360 (KATO: 17487).

9. *Oreopteris* Holub

14. *Oreopteris limbosperma* (All.) Holub (syn.: *Thelypteris limbosperma* (All.) H.P.Fuchs)

Köprüyanı district, in forest, 1204 m, 24.07.2008, Uzun 1727 (KATO: 17486).

F9 [9]. Dryopteridaceae

10. *Dryopteris* Adans. – Eğrelti otu

15. *Dryopteris filix-mas* (L.) Schott – Solucan eğreltisi

Ormanüstü village, in forest, 1085 m, 10.07.2008, Uzun 1365 (KATO: 17512); ibid., 1676 m, 17.07.2008, Uzun 1589 (KATO: 17517); Çamlıdüz plateau, in forest, 1740 m, 22.07.2008, Uzun 1705 (KATO: 17519); Ormanüstü village, in forest, 1098 m, 24.07.2008, Uzun 1730 (KATO: 17520); Köprüyanı district, in forest, 1204 m, 24.07.2008, Uzun 1731 (KATO: 17521).

16. *Dryopteris oreades* Fomin

Ormanüstü village, forest edge, 1650 m, 08.07.2008, Uzun 1274 (KATO: 17522). Euro-Sib. El.

17. *Dryopteris dilatata* (Hoffm.) A.Gray

Ormanüstü village, in forest, 1467 m, 12.07.2008, Uzun 1443 (KATO: 17523). Euro-Sib. El.

*18. *Dryopteris aemula* (Aiton) Kuntze (syn.: *Dryopteris ziliana* Goligin)

Köprüyanı district, in forest, 977 m, 11.07.2008, Uzun 1406 (KATO: 17524). Eux. El.

19. *Dryopteris carthusiana* (Vill.) H.P. Fuchs
Ormanüstü village, in forest, 1236 m, 09.07.2008, Uzun 1335 (KATO: 17525); ibid., 1280 m, 09.07.2008, Uzun 1336 (KATO: 17526); ibid., 1360 m, 10.07.2008, Uzun 1366 (KATO: 17527); Ormanüstü village, in forest, 1642 m, 15.07.2008, Uzun 1540 (KATO: 17528); ibid., 1647 m, 15.07.2008, Uzun 1541 (KATO: 17529).

11. *Polystichum* Roth

20. *Polystichum aculeatum* (L.) Roth

Ormanüstü village, in forest, 1085 m, 10.07.2008, Uzun 1362 (KATO: 17501); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1363 (KATO: 17502); ibid., 1664 m, 21.07.2008, Uzun 1681 (KATO: 17505); Ormanüstü village, in forest, 1948 m, 22.07.2008, Uzun 1704 (KATO: 17506); Ormanüstü village, in forest, 1205 m, 24.07.2008, Uzun 1729 (KATO: 17507).

21. *Polystichum setiferum* (Forssk.) T. Moore ex Woyn.– Dere gülü

Ormanüstü village, coniferous-broadleaf mixed forests, 1172 m, 10.07.2008, Uzun

1364 (KATO: 17508); Köprüyanı district, in forest, 997 m, 11.07.2008, Uzun 1404 (KATO: 17509); ibid., 951 m, 11.07.2008, Uzun 1405 (KATO: 17510); Ormanüstü village, in forest, 1642 m, 15.07.2008, Uzun 1539 (KATO: 17511).

F10 [10]. Polypodiaceae

12. *Polypodium* L.

22. *Polypodium vulgare* L.

Ormanüstü village, in forest, 1615 m, 26.07.2006, Uzun 933 (KATO: 17530); Ormanüstü village, in forest, 1205 m, 24.07.2008, Uzun 1732 (KATO: 17531).

GYMNOSPERMS

Pinales

F11 [1]. Pinaceae

13. *Picea* Dietr. – Ladin

23. *Picea orientalis* (L.) Peterm. – Doğu Ladini

Ormanüstü village, in forest, 1400 m, 10.05.2005, Uzun 558 (KATO: 17532). Eux. El.

14. *Abies* Mill. – Gök nar

24. *Abies nordmanniana* (Steven) Spach subsp. *nordmanniana* – Doğu Karadeniz Gök narı

Ormanüstü village, in forest, 1800 m, 10.05.2005, Uzun 559 (KATO: 17533). Eux. El.

15. *Pinus* L. – Çam

25. *Pinus sylvestris* L.– Sarıçam

Köprüyanı village, steep cliffs, 900 m, 10.05.2005, Uzun 560 (KATO: 17534). Euro-Sib. El.

Cupressales

F12 [2]. Taxaceae

16. *Taxus* L.

26. *Taxus baccata* L. – Yaygın porsuk

Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1337 (KATO: 17535); ibid. in forest, 1622 m, 15.07.2008, Uzun 1542 (KATO: 17536).

F13 [3]. Cupressaceae

17. Juniperus L. – Ardiç

27. *Juniperus communis* L. var. *saxatilis* Pall.
– Yaygın ardiç

Ormanüstü plateau, timberline, 2000 m,
22.07.2008, Uzun 1706 (KATO: 17537).

28. *Juniperus deltoides* R.P.Adams. (**syn.:**
Juniperus oxycedrus L. subsp. *oxycedrus* var.
oxycedrus) – Katran ardıcı

Çatak district, roadside slope, 600 m,
11.07.2007, Uzun 968 (KATO: 17538).

ANGIOSPERMS

MAGNOLIIDS

Piperales Bercht. & J.Presl

F14 [1]. Aristolochiaceae Juss.

18. Aristolochia L.

29. *Aristolochia pontica* Lam.

Ormanüstü village, in forest, 1067 m,
24.07.2008, Uzun 1733 (KATO: 17539).

Eux. el.

MONOCOTS

Alismatales R.Br. ex Bercht. & J.Presl

F15 [1]. Araceae Juss.

19. Arum L. – Yılan yastığı

30. *Arum maculatum* L.

Ormanüstü village, damp place, 950 m,
05.08.2005, Uzun 836 (KATO: 18555).

Dioscoreales Mart.

F16 [2]. Dioscoreaceae R.Br.

20. Dioscorea L.

31. *Dioscorea communis* (L.) Caddick &
Wilkin (**syn.:** *Tamus communis* L. subsp.
communis) – Dövülmüş avrat otu

Ormanüstü village, shrubby place, 929 m,
08.07.2005, Uzun 757 (KATO: 18757);
Çeşmeler district, in forest, 460 m,
05.08.2005, Uzun 853 (KATO: 18758);
Köprüyanı district, in forest, 1001 m,
08.07.2008, Uzun 1331 (KATO: 18759).

Liliales Perleb

F17 [3]. Melanthiaceae Batsch ex Borkh.

21. Veratrum L.

32. *Veratrum album* L. – Ak çöpleme

Ormanüstü plateau, open place, 1850 m,
10.05.2005, Uzun 615 (KATO: 18749).
Euro-Sib. el.

22. Paris L.

33. *Paris incompleta* M.Bieb. – Tilki üzümü
Ormanüstü village, in forest, 1280 m,
09.07.2008, Uzun 1359 (KATO: 18752);
ibid., 1642 m, 15.07.2008, Uzun 1568
(KATO: 18753). Eux. el.

F18 [4]. Colchicaceae DC.

23. Colchicum L. – Acı çiğdem

34. *Colchicum szovitsii* Fisch. & C.A.Mey.
subsp. *szovitsii*

Ormanüstü plateau, melting snow patches,
1960 m, 10.05.2005, Uzun 616 (KATO:
18750). Ir.-Tur. el.

35. *Colchicum speciosum* Steven – Vargit
çiçeği

Köprüyanı, open forest, 920 m, 23.05.2006,
Uzun 893 (KATO: 18751). Hyr.-Eux. el.

F19 [5]. Smilacaceae Vent.

24. Smilax L.

36. *Smilax excelsa* L. – Gıcır otu

Çatak, on bushes, 860 m, 08.07.2008, Uzun
1330 (KATO: 18756). Eux. el.

F20 [6]. Liliaceae Juss.

25. Lilium L. – Zambak

37. *Lilium ciliatum* P.H.Davis

Ormanüstü village, forest edge, 1596 m,
17.07.2008, Uzun 1626 (KATO: 18742).
Eux. el., **Endemic**, IUCN: NT previously,
revised by İkinci (2005) as EN

38. *Lilium armenum* (Miscz. ex Grossh.)
Manden (**syn.:** *Lilium monadelphum* M.Bieb.
var. *armenum* (Miscz. ex Grossh.) P.H.Davis
& D.M.Hend.)

Çeşmeler district, grassy place, 650 m,
01.06.2008, Uzun 1089 (KATO: 18743);
Ormanüstü village, grassy place, 1162 m,
09.07.2008, Uzun 1357 (KATO: 18744);
ibid., forest edge, 1280 m, 09.07.2008, Uzun
1358 (KATO: 18745); ibid., 1450 m,
10.07.2008, Uzun 1400 (KATO: 18746);
ibid., 1683 m, 10.07.2008, Uzun 1401
(KATO: 18747). **Rare**, IUCN: VU
previously, revised by İkinci (2005) as EN

26. *Gagea Salisb.*

39. *Gagea bohemica* (Zauschn.) Schult. & Schult.f. (syn.: *Gagea fistulosa* (Ramond ex DC.) Ker Gawl.)

Ormanüstü plateau, grassy place, 1980 m, 10.05.2005, Uzun 614 (KATO: 18748). Ir.-Tur. el.

Asparagales Link

F21 [7]. Orchidaceae Juss.

27. *Neottia Guettard*

40. *Neottia nidus-avis* (L.) Rich.

Ormanüstü village, in forest, 1479 m, 12.07.2008, Uzun 1452 (KATO: 18760); ibid., 1627 m, 15.07.2008, Uzun 1569 (KATO: 18761). Euro-Sib. el.

28. *Cephalanthera L.C.M.Richard*

41. *Cephalanthera longifolia* (L.) Fritsch

Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1269 (KATO: 18762); Köprüyanı district, open forest, 1001 m, 08.07.2008, Uzun 1332 (KATO: 18763); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1533 (KATO: 187649). Euro-Sib. el.

42. *Cephalanthera damasonium* (Mill.) Druce.

Çatak, in forest, 483 m, 14.07.2008, Uzun 1534 (KATO: 18765); Çatak, in forest, 1010 m, 14.07.2008, Uzun 1535 (KATO: 18766); Çatak, in forest, 928 m, 18.07.2008, Uzun 1635 (KATO: 18767); Ormanüstü village, in forest, 1639 m, 27.07.2008, Uzun 1754 (KATO: 18768). Euro-Sib. el.

29. *Epipactis Zinn*

43. *Epipactis turcica* Kreutz (syn.: *Epipactis tremolsii* Pau subsp. *turcica* (Kreutz) Kreutz) Çeşmeler district, stony hill, 942 m, 08.07.2008, Uzun 1333 (KATO: 18769). **Endemic, IUCN: LC**

30. *Limodorum Boehm.*

44. *Limodorum abortivum* (L.) Sw. var. *abortivum*

Çeşmeler district, *Carpinus orientalis* thicket, 750 m, 01.06.2008, Uzun 1090 (KATO: 18770); Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1270 (KATO: 18771); Köprüyanı district, in forest, 1001 m, 08.07.2008, Uzun 1334 (KATO: 18772);

Çatak, in forest, 940 m, 18.07.2008, Uzun 1636 (KATO: 18773).

31. *Goodyera R.Br.*

45. *Goodyera repens* (L.) R.Br.

Ormanüstü village, in spruce forest, 1615 m, 26.07.2006, Uzun 966 (KATO: 18774); ibid., 1479 m, 12.07.2008, Uzun 1453 (KATO: 18775); ibid., 1622 m, 15.07.2008, Uzun 1570 (KATO: 18776); Ormanüstü plateau, in forest, 1615 m, 17.07.2008, Uzun 1627 (KATO: 18777); Ormanüstü village, in forest, 1710 m, 21.07.2008, Uzun 1703 (KATO: 18778). Euro-Sib. el.

32. *Gymnadenia R.Br.*

46. *Gymnadenia conopsea* (L.) R.Br.

Ormanüstü plateau, grassy place, 1900 m, 08.07.2005, Uzun 759 (KATO: 18779); ibid., 1850 m, 05.08.2005, Uzun 854 (KATO: 18780). Euro-Sib. el.

33. *Platanthera Rich.*

47. *Platanthera chlorantha* (Custer) Rchb.

Ormanüstü village, in forest, 1014 m, 11.07.2008, Uzun 1440 (KATO: 18781); Ormanüstü village, open forest, 1639 m, 15.07.2008, Uzun 1571 (KATO: 18782).

34. *Ophrys L. – Kazankarası*

48. *Ophrys sphegodes* Mill. subsp. *sphgodes* Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1091 (KATO: 18783).

49. *Ophrys oestriifera* M.Bieb. subsp. *oestriifera*

Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1092 (KATO: 18784).

35. *Anacamptis Rich.*

50. *Anacamptis pyramidalis* (L.) Rich. – Çam salebi

Yukarıköy village, afforestation site, 836 m, 18.07.2008, Uzun 1637 (KATO: 18785).

36. *Neotinea Rchb.f. – Salep*

51. *Neotinea tridentata* (Scop.) R.M.Bateman, Pridgeon & M.W.Chase (syn.: *Orchis tridentata* Scop.) – Beyaz dağ salebi

Ormanüstü village, open hills, 1300 m, 08.07.2005, Uzun 760 (KATO: 18786); Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1271 (KATO: 18787);

Çatak, open forest, 458 m, 14.07.2008, Uzun 1536 (KATO: 18788). *Medit. el.*

37. *Orchis* L. – Salep

52. *Orchis simia* Lam. – Püsküllü, Tavşantopuğu

Çeşmeler district, roadside slope, 500 m, 10.05.2005, Uzun 617 (KATO: 18789); *ibid.*, grassy place, 700 m, 01.06.2008, Uzun 1093 (KATO: 18790). *Medit. el.*

38. *Dactylorhiza* Neck. ex Nevski

53. *Dactylorhiza urvilleana* (Steud.) H.Baumann & Künkele subsp. *urvilleana*
Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1812 (KATO: 18791). *Eux. el.*

54. *Dactylorhiza euxina* (Nevski) Czerep. subsp. *euxina* var. *euxina*
Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1680 (KATO: 18792). *Eux. el.*

F22 [8]. Iridaceae Juss.

39. *Crocus* Herb. – Çiğdem

55. *Crocus vallicola* Herb.
Ormanüstü village, grassy place, 1300 m, 09.09.2007, Uzun 1049 (KATO: 18755). *Eux. el.*

F23 [9]. Asphodelaceae Juss.

40. *Asphodeline* Rchb. – Çiriş otu, Dede değneği

56. *Asphodeline lutea* (L.) Rchb.
Çeşmeler district, shrubby place, 600 m, 01.06.2008, Uzun 1087 (KATO: 18731). *Medit. el.*

F24 [10]. Amaryllidaceae J.St.-Hil.

41. *Galanthus* L. – Kardelen

57. *Galanthus rizehensis* Stern
Köprüyanı, open forest, 920 m, 23.04.2006, Uzun 858 (KATO: 18754). *Eux. el.*, **Rare**, IUCN: VU

F25 [11]. Asparagaceae Juss.

42. *Ruscus* L.

58. *Ruscus aculeatus* L. (*syn.*: *Ruscus aculeatus* L. var. *angustifolius* Boiss) – Tavşan kirazı

Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1267 (KATO: 18724).

59. *Ruscus colchicus* Yeo – Zirmek

Köprüyanı district, in forest, 1067 m, 24.07.2008, Uzun 1748 (KATO: 18725). *Eux. el.*, **Rare**, IUCN: VU

43. *Polygonatum* Mill. – Mührü Süleyman

60. *Polygonatum verticillatum* (L.) All.
Ormanüstü plateau, open land, 1596 m, 17.07.2008, Uzun 1625 (KATO: 18726). *Euro-Sib. el.*

61. *Polygonatum multiflorum* (L.) All
Ormanüstü village, spruce forest, 1150 m, 05.08.2005, Uzun 851 (KATO: 18727); Köprüyanı district, shrubby place, 1100 m, 23.05.2006, Uzun 890 (KATO: 18728); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1532 (KATO: 18729); Çatak, in forest, 873 m, 18.07.2008, Uzun 1634 (KATO: 18730).

44. *Scilla* L. – Mavi yıldız

62. *Scilla monanthos* K.Koch
Ormanüstü plateau, damp meadows, 1720 m, 10.05.2005, Uzun 611 (KATO: 18732). *Eux. el.*

63. *Scilla siberica* Haw. subsp. *armena* (Grossh.) Mordak
Ormanüstü village, damp meadows, 1700 m, 10.05.2005, Uzun 612 (KATO: 18733). *Ir.-Tur. el.*

45. *Ornithogalum* L. – Ak yıldız, Tükrük otu

64. *Ornithogalum narbonense* L. – Ak baldır
Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1088 (KATO: 18734). *Medit. el.*

65. *Ornithogalum oligophyllum* E.D. Clarke – Kurt soğanı
Ormanüstü plateau, alpine hill, 2000 m, 08.07.2005, Uzun 756 (KATO: 18735); *ibid.*, wet hill, 1900 m, 05.08.2005, Uzun 852 (KATO: 18736).

46. *Muscari* Mill. – Arap sümbülü

66. *Muscari armeniacum* Leichtlin ex Baker
Ormanüstü Yaylası, grassy place, 1800 m, 10.05.2005, Uzun 613 (KATO: 18737); Çeşmeler district, stony places, 583 m, 07.07.2008, Uzun 1268 (KATO: 18738);

ibid., 942 m, 08.07.2008, Uzun 1329 (KATO: 18739).

67. *Muscari neglectum* Guss. ex Ten.
Köprüyanı, sandy hills, 620 m, 23.05.2006, Uzun 891 (KATO: 18740); ibid., 920 m, 23.05.2006, Uzun 892 (KATO: 18741).

Poales Small

F26 [12]. Juncaceae Juss.

47. *Juncus* L. – Çayır sazi

68. *Juncus inflexus* L. subsp. *inflexus*
Ormanüstü village, damp places, 1750 m, 05.08.2005, Uzun 837 (KATO: 18556).

69. *Juncus effusus* L. subsp. *effusus* – Gevşek hasır otu
Ormanüstü village, damp places, 1750 m, 05.08.2005, Uzun 838 (KATO: 18557); ibid., streamside, 1400 m, 12.07.2007, Uzun 1027 (KATO: 18558). Cosmopolitan

70. *Juncus bufonius* L.
Ormanüstü village, wet rocky hills, 1300 m, 08.07.2005, Uzun 742 (KATO: 18559). Cosmopolitan

71. *Juncus articulatus* L. subsp. *articulatus*
Ormanüstü plateau, damp meadows, 1805 m, 05.08.2005, Uzun 839 (KATO: 18560); ibid., 1850 m, 05.08.2005, Uzun 840 (KATO: 18561). Euro-Sib. el.

48. *Luzula* DC. – Kuzu levreği

72. *Luzula forsteri* (Sm.) DC.
Ormanüstü village, roadside, 1550 m, 10.05.2005, Uzun 601 (KATO: 18562); ibid., in forest, 1467 m, 12.07.2008, Uzun 1451 (KATO: 18563); ibid., open forest, 1627 m, 15.07.2008, Uzun 1559 (KATO: 18564); ibid., 1912 m, 16.07.2008, Uzun 1583 (KATO: 18565); ibid., in forest, 1691 m, 16.07.2008, Uzun 1584 (KATO: 18566); Çamlıdüz plateau, in forest, 1576 m, 17.07.2008, Uzun 1617 (KATO: 18567); Çamlıdüz plateau, in forest, 1720 m, 17.07.2008, Uzun 1618 (KATO: 18568). Euro-Sib. el.

73. *Luzula sylvatica* (Huds.) Gaudin subsp. *sylvatica*
Ormanüstü village, in forest, 1752 m, 21.07.2008, Uzun 1698 (KATO: 18569). Euro-Sib. el.

74. *Luzula stenophylla* Steud. (syn.: *Luzula pseudosudetica* (V.Krecz.) V.Krecz. apud V.Krecz. & Gontsh.)

Çamlıdüz plateau, in forest, 1769 m, 22.07.2008, Uzun 1723 (KATO: 18570). Eux. (mt.) el.

75. *Luzula multiflora* (Ehrh.) Lej. subsp. *multiflora*
Ormanüstü plateau, grassy place, 2014 m, 08.07.2005, Uzun 743 (KATO: 18571); ibid., 2000 m, 05.08.2005, Uzun 841 (KATO: 18572).

F27 [13]. Cyperaceae Juss.

49. *Carex* L. – Ekşi çimen, Ayak otu

76. *Carex leersii* F.W.Schultz (syn.: *Carex divulsa* Stokes subsp. *leersii* (F.W.Schultz) W.Koch)

Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1253 (KATO: 18573); Sukenarı district, in forest, 498 m, 11.07.2008, Uzun 1435 (KATO: 18574). Euro-Sib. el.

77. *Carex muricata* L.
Ormanüstü plateau, grassy place, 2000 m, 16.07.2008, Uzun 1585 (KATO: 18575). Euro-Sib. el.

78. *Carex pendula* Huds.
Ormanüstü village, forest edge, damp place, 1280 m, 09.07.2008, Uzun 1353 (KATO: 18576). Euro-Sib. el.

79. *Carex sylvatica* Huds. subsp. *sylvatica*
Ormanüstü village, wet hills, 1750 m, 05.08.2005, Uzun 842 (KATO: 18577); ibid., grassy place, 1162 m, 09.07.2008, Uzun 1354 (KATO: 18578); ibid., in forest, 1642 m, 15.07.2008, Uzun 1560 (KATO: 18579); Ormanüstü village, open forest, 1627 m, 15.07.2008, Uzun 1561 (KATO: 18580); ibid., 1639 m, 15.07.2008, Uzun 1562 (KATO: 18581); Ormanüstü plateau, in forest, 1668 m, 17.07.2008, Uzun 1619 (KATO: 18582); ibid., 1615 m, 17.07.2008, Uzun 1620 (KATO: 18583); Çamlıdüz plateau, in forest, 1720 m, 17.07.2008, Uzun 1621 (KATO: 18584); Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1699 (KATO: 18585); Ormanüstü village, in forest, 1745 m, 21.07.2008, Uzun 1700 (KATO: 18586); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1796 (KATO: 18587). Euro-Sib. el.

80. *Carex flacca* Schreb. subsp. *flacca
Ormanüstü plateau, grassy place, 1800 m, 18.07.2008, Uzun 1633 (KATO: 18588).

81. *Carex flacca* Schreb. subsp. *erythrostachys* (Hoppe) Holub (**syn.:** *Carex flacca* Schreb. subsp. *serratula* (Biv. ex Spreng.) Greuter)

Çatak, in forest, 483 m, 14.07.2008, Uzun 1512 (KATO: 18589). *Medit. el.*

82. *Carex pallescens* L. (**syn.:** *Carex pallescens* L. var. *chalcodeta* (V.Krecz.) Ö.Nilsson)

Ormanüstü plateau, wet meadows, 2000 m, 05.08.2005, Uzun 843 (KATO: 18590). *Eux. el.*

83. *Carex digitata* L.

Ormanüstü village, in forest, 1945 m, 16.07.2008, Uzun 1586 (KATO: 18591); Ormanüstü plateau, pure *Picea orientalis* stand, 1912 m, 16.07.2008, Uzun 1587 (KATO: 18592). *Eux. el.*

84. *Carex depressa* Link subsp. *transilvanica* (Schur) K.Richt.

Ormanüstü plateau, grassy place, 2000 m, 08.07.2005, Uzun 744 (KATO: 18593); Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1254 (KATO: 18594). *Euro-Sib. el.*

85. *Carex liparocarpos* Gaudin subsp. *bordzilowskii* (V.I.Krecz.) T.V. Egorova

Çatak, open forest, 458 m, 14.07.2008, Uzun 1513 (KATO: 18595). *Hyr.-Eux. el.*

F28 [14]. Poaceae Barnhart (= Gramineae Juss.)

50. Brachypodium L.

86. *Brachypodium distachyon* (L.) P.Beauv. (**syn.:** *Trachynia distachya* (L.) Link)

Çeşmeler, damp place, 437 m, 07.07.2008, Uzun 1258 (KATO: 18616).

87. *Brachypodium pinnatum* (L.) P.Beauv.

Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1256 (KATO: 18605); Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1257 (KATO: 18608); Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1326 (KATO: 18609); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1515 (KATO: 18613); Yukarıköy village, in forest, 931 m, 14.07.2008, Uzun 1516 (KATO: 18614); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1837 (KATO: 18615). *Euro-Sib. el.*

88. *Brachypodium sylvaticum* (Huds.) P.Beauv. subsp. *sylvaticum*

Yenimahalle, forest edge, 780 m, 26.07.2006, Uzun 965 (KATO: 18596); Kiremitli district, grassy place, 717 m, 13.07.2007, Uzun 1047 (KATO: 18597); Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1255 (KATO: 18598); Köprüyanı district, open forest, 701 m, 08.07.2008, Uzun 1325 (KATO: 18599); Çatak, in forest, 483 m, 14.07.2008, Uzun 1514 (KATO: 18601); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1836 (KATO: 18604). *Euro-Sib. el.*

51. Elymus L.

89. *Elymus repens* (L.) Gould subsp. *repens* – Ayrik otu, Demir otu

Ormanüstü village, grassy place, 850 m, 14.07.2008, Uzun 1517 (KATO: 18617).

52. Hordeum L. – Arpa

***90.** *Hordeum bulbosum* L.

Çatak, roadside, 400 m, 11.07.2008, Uzun 1436 (KATO: 18618); Yukarıköy village, grassy place, 850 m, 14.07.2008, Uzun 1518 (KATO: 18619).

53. Bromus L. – Brom

91. *Bromus racemosus* L. subsp. *racemosus* Yukarıköy village, grassy place, 850 m, 14.07.2008, Uzun 1519 (KATO: 18620). *Euro-Sib. el.*

92. *Bromus commutatus* Schrad. subsp. *commutatus*

Ormanüstü village, grassy place, 1000 m, 10.05.2005, Uzun 602 (KATO: 18621).

93. *Bromus madritensis* L. subsp. *madritensis* Çatak, open forest, 458 m, 14.07.2008, Uzun 1520 (KATO: 18622).

***94.** *Bromus benekenii* (Lange) Trimen

Ormanüstü village, open forest, 1627 m, 15.07.2008, Uzun 1563 (KATO: 18623); *ibid.*, 1639 m, 15.07.2008, Uzun 1564 (KATO: 18624); Ormanüstü village, in forest, 1205 m, 24.07.2008, Uzun 1747 (KATO: 18625).

54. Avena L. – Yulaf

***95.** *Avena fatua* L. subsp. *fatua*

Çeşmeler district, roadside, 650 m, 08.07.2005, Uzun 745 (KATO: 18626).

96. *Avena sterilis* L. subsp. *ludoviciana* (Durieu) Gillet & Magne

Çeşmeler district, roadside, 500 m, 10.05.2005, Uzun 603 (KATO: 18627).

55. *Helictochloa* Romero Zarco

97. *Helictochloa planiculmis* (Schrad.) Romero Zarco (**syn.:** *Helictotrichon planiculme* (Schrad.) Pilg.) Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 930 (KATO: 18628); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1797 (KATO: 18629); Ormanüstü plateau, stony degraded spruce forest, 2000 m, 02.08.2008, Uzun 1798 (KATO: 18630). Eux. el.

56. *Gaudiniopsis* Eig

98. *Gaudiniopsis macra* (M.Bieb.) Eig subsp. *macra* Ormanüstü plateau, grassy place, 2014 m, 08.07.2005, Uzun 746 (KATO: 18631). Ir.-Tur. el.

57. *Trisetum* Pers.

99. *Trisetum flavescens* (L.) P.Beauv. subsp. *flavescens* Ormanüstü plateau, grassy place, 2020 m, 05.08.2005, Uzun 844 (KATO: 18632). Euro-Sib. el.

58. *Holcus* L.

100. *Holcus lanatus* L. subsp. *lanatus* Ormanüstü village, moist grassy place, 1000 m, 10.05.2005, Uzun 604 (KATO: 18633). Euro-Sib. el.

59. *Calamagrostis* Adanson

101. *Calamagrostis arundinacea* (L.) Roth. Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1393 (KATO: 18634); *ibid.*, in forest, 1622 m, 15.07.2008, Uzun 1565 (KATO: 18635); Ormanüstü plateau, in forest, 1738 m, 16.07.2008, Uzun 1588 (KATO: 18636); Çamlıdüz plateau, in forest, 1740 m, 22.07.2008, Uzun 1724 (KATO: 18637); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1799 (KATO: 18638). Euro-Sib. el.

60. *Agrostis* L.

102. *Agrostis gigantea* Roth subsp. *gigantea* Ormanüstü village, moist grassy place, 1000 m, 10.05.2005, Uzun 605 (KATO: 18639); Ormanüstü plateau, grassy place, 2014 m, 08.07.2005, Uzun 747 (KATO: 18640); Ormanüstü village, grassy place, 1280 m, 09.07.2008, Uzun 1355 (KATO: 18641);

Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1394 (KATO: 18642); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1677 (KATO: 18643); *ibid.*, 1862 m, 02.08.2008, Uzun 1800 (KATO: 18644); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1801 (KATO: 18645). Euro-Sib. el.
103. *Agrostis capillaris* L. subsp. *capillaris* Ormanüstü plateau, grassy place, 1805 m, 05.08.2005, Uzun 845 (KATO: 18646).

61. *Anthoxanthum* L.

104. *Anthoxanthum odoratum* L. subsp. *alpinum* (A.Löve & D.Löve) B.M.G.Jones & Melderis Ormanüstü plateau, open forest, 1979 m, 02.08.2008, Uzun 1802 (KATO: 18647); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1803 (KATO: 18648); Ormanüstü plateau, stony degraded spruce forest, 2000 m, 02.08.2008, Uzun 1804 (KATO: 18649). Euro-Sib. el.

62. *Phleum* L. – Çayır köpek kuyruğu

105. *Phleum nodosum* L. (**syn.:** *Phleum bertolonii* DC.) Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1838 (KATO: 18650).
106. *Phleum montanum* K.Koch subsp. *montanum* Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1259 (KATO: 18651).

63. *Festuca* L. – Çayır yumağı

107. *Festuca airoides* Lam. Ormanüstü plateau, grassy place, 2014 m, 08.07.2005, Uzun 748 (KATO: 18662); *ibid.*, 2000 m, 05.08.2005, Uzun 846 (KATO: 18663); *ibid.*, 2000 m, 05.06.2006, Uzun 931 (KATO: 18664); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1678 (KATO: 18665); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1806 (KATO: 18666). Euro-Sib. (mt.) el.
108. *Festuca heterophylla* Lam. Köprüyanı district, open forest, 975 m, 08.07.2008, Uzun 1327 (KATO: 18667); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1437 (KATO: 18668); Çatak, open forest, 458 m, 14.07.2008, Uzun 1523 (KATO: 18669). Euro-Sib. el.

109. *Festuca chalcophaea* V.I.Krecz. & Bobrov subsp. *euryphylla* (St.-Yves) Markgr.-Dann.

Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1396 (KATO: 18670). Ir.-Tur. el.

110. *Festuca amethystina* L. subsp. *orientalis* Krajina var. *turcica* Markgr.-Dann.

Ormanüstü plateau, stony degraded spruce forest, 2000 m, 02.08.2008, Uzun 1807 (KATO: 18671). Euro-Sib. (mt.) el.,
Endemic, IUCN: NT

64. Drymochloa Holub.

111. *Drymochloa drymeja* (Mert. & W. D. J. Koch) Holub subsp. *drymeja* (**bas.:** *Festuca drymeja* Mert. & W.D.J.Koch)

Ormanüstü village, in forest, 1236 m, 09.07.2008, Uzun 1356 (KATO: 18652); Ormanüstü village, coniferous-broadleaf mixed forests, 1172 m, 10.07.2008, Uzun 1395 (KATO: 18653); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1521 (KATO: 18654); Ormanüstü village, open forest, 1627 m, 15.07.2008, Uzun 1566 (KATO: 18655); Ormanüstü plateau, in forest, 1668 m, 17.07.2008, Uzun 1622 (KATO: 18656); *ibid.*, 1615 m, 17.07.2008, Uzun 1623 (KATO: 18657); Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1701 (KATO: 18658); Ormanüstü village, in forest, 1752 m, 21.07.2008, Uzun 1702 (KATO: 18659); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1805 (KATO: 18660). Euro-Sib. el.

65. Schedonorus P.Beauv.

***112.** *Schedonorus arundinaceus* (Schreb.) Dumont subsp. *arundinaceus* (**syn.:** *Lolium arundinaceum* (Schreb.) Darbysh. subsp. *arundinaceum*, *Festuca arundinacea* Schreb. subsp. *arundinacea*)

Yukarıköy village, grassy place, 850 m, 14.07.2008, Uzun 1522 (KATO: 18661).

66. Bellardiochloa Chiov.

113. *Bellardiochloa polychroa* (Trautv.) Roshev.

Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1808 (KATO: 18672). Ir.-Tur. el.

67. Lolium L. – İngiliz çimi

114. *Lolium perenne* L.

Ormanüstü village, damp grassy place, 1000 m, 10.05.2005, Uzun 606 (KATO: 18673); Ormanüstü plateau, grassy place, 2000 m, 08.07.2005, Uzun 749 (KATO: 18674). Euro-Sib. el.

68. Vulpia C.C.Gmelin

115. *Vulpia ciliata* Dumort. subsp. *ciliata* Çeşmeler, stony-grassy place, 437 m, 07.07.2008, Uzun 1260 (KATO: 18675).

69. Catapodium Link

116. *Catapodium rigidum* (L.) C.E.Hubb. subsp. *majus* (C.Presl) F.H.Perring & P.D.Sell

Çeşmeler district, stony place, 583 m, 07.07.2008, Uzun 1261 (KATO: 18676).

70. Poa L.

117. *Poa annua* L.

Ormanüstü village, grassy place, 1190 m, 05.08.2005, Uzun 847 (KATO: 18677). Cosmopolitan

118. *Poa trivialis* L.

Ormanüstü village, damp grassy place, 1000 m, 10.05.2005, Uzun 607 (KATO: 18678); Ormanüstü village, damp grassy place, 1300 m, 08.07.2005, Uzun 608 (KATO: 18679).

119. *Poa pratensis* L. subsp. *pratensis*

Ormanüstü village, open place, 929 m, 08.07.2005, Uzun 750 (KATO: 18680); Ormanüstü village, grassy place, 1400 m, 12.07.2007, Uzun 1028 (KATO: 18681).

120. *Poa angustifolia* L.

Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1397 (KATO: 18682).

121. *Poa nemoralis* L. subsp. *nemoralis*

Ormanüstü village, grassy place, 1500-1750 m, 08.07.2005, Uzun 751 (KATO: 18683); Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1262 (KATO: 18684); Ormanüstü village, coniferous-broadleaf mixed forests, 1172 m, 10.07.2008, Uzun 1398 (KATO: 18685); Köprüyanı district, in forest, 719 m, 11.07.2008, Uzun 1438 (KATO: 18686); Ormanüstü village, grassy place, 1400 m, 12.07.2007, Uzun 1029 (KATO: 18687); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1524 (KATO: 18688); Ormanüstü village, in forest, 1627 m, 15.07.2008, Uzun 1567 (KATO: 18689);

Çamlıdüz plateau, in forest, 1740 m, 22.07.2008, Uzun 1725 (KATO: 18690).

71. *Dactylis* L. – Domuz ayrığı

122. *Dactylis glomerata* L. subsp. *glomerata*
Ormanüstü village, grassy place, 1750 m, 05.08.2005, Uzun 848 (KATO: 18691); Kiremitli district, grassy place, 717 m, 13.07.2007, Uzun 1048 (KATO: 18692); Çeşmeler district, stony place, 583 m, 07.07.2008, Uzun 1263 (KATO: 18693); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1525 (KATO: 18694); Çatak, in forest, 1010 m, 14.07.2008, Uzun 1526 (KATO: 18695). Euro-Sib. el.

123. *Dactylis glomerata* L. subsp. *hispanica* (Roth) Nyman
Ormanüstü plateau, grassy place, 1900 m, 05.08.2005, Uzun 849 (KATO: 18696).

72. *Cynosurus* L.

124. *Cynosurus cristatus* L.
Ormanüstü village, damp grassy place, 1000 m, 10.05.2005, Uzun 609 (KATO: 18697); Ormanüstü plateau, grassy place, 2000 m, 08.07.2005, Uzun 752 (KATO: 18698); *ibid.*, 1805 m, 05.08.2005, Uzun 850 (KATO: 18699); *ibid.*, 2020 m, 05.06.2006, Uzun 932 (KATO: 18700); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1399 (KATO: 18701); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1679 (KATO: 18702). Euro-Sib. el.

125. *Cynosurus echinatus* L.
Yukarıköy village, grassy place, 850 m, 11.07.2007, Uzun 1022 (KATO: 18703); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1839 (KATO: 18704). Medit. el.

73. *Briza* L.

126. *Briza media* L.
Ormanüstü village, nemli grassy place, 1000 m, 10.05.2005, Uzun 610 (KATO: 18705); Çeşmeler district, open place, 595 m, 08.07.2005, Uzun 753 (KATO: 18706); Ormanüstü village, open place, 929 m, 08.07.2005, Uzun 754 (KATO: 18707); Ormanüstü plateau, grassy place, 1814 m, 08.07.2005, Uzun 755 (KATO: 18708); Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1264 (KATO: 18709); Çatak, open forest, 458 m, 14.07.2008, Uzun 1527 (KATO: 18710).

74. *Sesleria* Scop.

127. *Sesleria alba* Sm. subsp. *alba*
Çeşmeler district, stony hill, 942 m, 08.07.2008, Uzun 1328 (KATO: 18711); Çatak, open forest, 458 m, 14.07.2008, Uzun 1528 (KATO: 18712).

75. *Melica* L.

128. *Melica uniflora* Retz.
Çatak, in forest, 486 m, 14.07.2008, Uzun 1529 (KATO: 18713); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1530 (KATO: 18714). Euro-Sib. el.

129. *Melica ciliata* L. subsp. *ciliata*
Çeşmeler district, stony-grassy hill, 1050 m, 11.07.2007, Uzun 1023 (KATO: 18715); Yukarıköy village, grassy place, 850 m, 14.07.2008, Uzun 1531 (KATO: 18716). Euro-Sib. el.

76. *Nardus* L.

130. *Nardus stricta* L.
Ormanüstü plateau, grassy place, 2000 m, 17.07.2008, Uzun 1624 (KATO: 18717); Ormanüstü plateau, stony degraded spruce forest, 2010 m, 02.08.2008, Uzun 1809 (KATO: 18718). Euro-Sib. el.

77. *Achnatherum* P.Beauv.

131. *Achnatherum bromoides* (L.) P. Beauv. (syn.: *Stipa bromoides* (L.) Dörf.)
Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1265 (KATO: 18719).Medit. el.

78. *Danthonia* DC.

132. *Danthonia decumbens* (L.) DC. subsp. *decumbens*
Ormanüstü plateau, forest edge, 1979 m, 02.08.2008, Uzun 1810 (KATO: 18720); *ibid.*, 1991 m, 02.08.2008, Uzun 1811 (KATO: 18721).

79. *Bothriochloa* O.Kuntze

133. *Bothriochloa ischaemum* (L.) Keng
Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1266 (KATO: 18722); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1439 (KATO: 18723).

EUDICOTS

Ranunculales Juss. ex Bercht. & J.Presl
F29 [1]. Papaveraceae Juss.

80. Corydalis Medik. – Kazgagası

134. Corydalis caucasica DC. subsp. *caucasica*
Ormanüstü village, open forest edge, 1550 m, 10.05.2005, Uzun 563 (KATO: 17563). Eux. el.

81. Fumaria L. – Şahtere otu

***135. Fumaria densiflora** DC.
Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1051 (KATO: 17564).
136. Fumaria officinalis L. subsp. *officinalis* – Şahtere
Çeşmeler district, roadside, 663 m, 07.07.2008, Uzun 1120 (KATO: 17565).

82. Papaver L. – Gelincik

137. Papaver rhoeas L. subsp. *rhoeas*
Çeşmeler district, roadside, 600 m, 10.06.2005, Uzun 619 (KATO: 17561).
138. Papaver dubium L. subsp. *dubium*
Sukenarı district, roadside slope, 663 m, 07.07.2008, Uzun 1119 (KATO: 17562).

F30 [2]. Berberidaceae Juss.

83. Epimedium L. – Keşiş külahı

139. Epimedium pubigerum (DC.) Moren & Decne.
Ormanüstü village, in forest, 663 m, 07.07.2008, Uzun 1118 (KATO: 17560). Eux. el.

F31 [3]. Ranunculaceae Juss.

84. Helleborus L. – Noel gülü

140. Helleborus orientalis Lam. – Doğu Noel gülü
Köprüyanı, open forest, 800 m, 23.05.2006, Uzun 859 (KATO: 17540); Köprüyanı, open hill, 920 m, 23.05.2006, Uzun 860 (KATO: 17541). Eux. el.

85. Actaea L.

141. Actaea spicata L. – Domuz üzümü
Ormanüstü village, in forest, 1600 m, 05.08.2005, Uzun 761 (KATO: 17542); *ibid.*, 1642 m, 15.07.2008, Uzun 1543 (KATO:

17543); *ibid.*, 1475 m, 21.07.2008, Uzun 1682 (KATO: 17544).

86. Caltha L.

142. Caltha palustris L. (*syn.*: *Caltha polypetala* Hochst. ex Lorent) – Lilpar, Batakılık nergisi
Ormanüstü plateau, streamside, 2000 m, 10.05.2005, Uzun 561 (KATO: 17545).

87. Aconitum L.

143. Aconitum orientale Mill.
Ormanüstü village, in forest, 1707 m, 16.07.2008, Uzun 1573 (KATO: 17546); Ormanüstü village, damp area in forest, 1620 m, 16.07.2008, Uzun 1574 (KATO: 17547); Ormanüstü village, in forest, 1600 m, 02.08.2008, Uzun 1759 (KATO: 17548). Eux. el.

88. Anemone L. – Kır lalesi

144. Anemone blanda Schott & Kotschy
Ormanüstü village, shrubby place, 1150 m, 10.04.2005, Uzun 551 (KATO: 17549).
145. Anemone caucasica Willd ex Rupr. – Kafkas kır lalesi
Ormanüstü plateau, grassy place, 1850 m, 10.04.2005, Uzun 552 (KATO: 17550). Eux. (mt.) el., **Rare**, IUCN: VU,

89. Clematis L.

146. Clematis vitalba L. – Orman Asması
Ormanüstü village, shrubby place, 1300 m, 08.07.2005, Uzun 621 (KATO: 17551); Köprüyanı district, shrubby place, 600 m, 23.05.2006, Uzun 861 (KATO: 17552); Sukenarı district, shrubby place, 685 m, 11.07.2007, Uzun 969 (KATO: 17553).

90. Ranunculus L. – Dügün çiçeği

147. Ranunculus cappadocicus Willd.
Köprüyanı district, damp places in forest, 1130 m, 23.05.2006, Uzun 862 (KATO: 17554). Eux. el., **Relict**
148. Ranunculus brutius Ten.
Ormanüstü village, in forest, 1948 m, 22.07.2008, Uzun 1707 (KATO: 17555). Euro-Sib. el.
149. Ranunculus repens L.
Ormanüstü village, damp place, 1600 m, 02.08.2008, Uzun 1760 (KATO: 17556).

150. *Ranunculus bulbosus* L. subsp. *aleae*
(Willk.) Rouy & Foucaud

Ormanüstü village, damp place, 1600 m,
02.08.2008, Uzun 1761 (KATO: 17557).
Euro-Sib. el., **Rare**, IUCN: VU

151. *Ranunculus constantinopolitanus* (DC.)
d'Urv. – İstanbul düğün çiçeği

Ormanüstü village, grassy place, 1100 m,
14.07.2008, Uzun 1455 (KATO: 17558).

91. *Aquilegia* L. – Haseki küpesi

152. *Aquilegia olympica* Boiss.

Ormanüstü village, grassy place, 1000 m,
10.05.2005, Uzun 562 (KATO: 17559).

Proteales Juss. ex Bercht. & J.Presl

F32 [4]. Platanaceae T.Lestib.

92. *Platanus* L. – Çınar

153. *Platanus orientalis* L. – Doğu çınarı
Çeşmeler district, streamside, 460 m,
01.06.2008, Uzun 1052 (KATO: 17566).

CORE EUDICOTS

SUPERROSIDS

Saxifragales Bercht. & J.Presl

F33 [5]. Grossulariaceae DC.

93. *Ribes* L. – Frenk üzümü

154. *Ribes petraeum* Wulfen (syn.: *Ribes*
biebersteinii Berl. ex DC.)

Çamlıdüz plateau, in forest, 1668 m,
17.07.2008, Uzun 1598 (KATO: 17756);
Ormanüstü village, forest edge, 1445 m,
17.07.2008, Uzun 1599 (KATO: 17757).
Eux. el.

155. *Ribes alpinum* L.

Ormanüstü village, mixed forest with *Fagus*
orientalis-Picea orientalis, 1606 m,
10.07.2008, Uzun 1371 (KATO: 17758);
Ormanüstü village, open forest, 1627 m,
15.07.2008, Uzun 1550 (KATO: 17759);
ibid., 1639 m, 15.07.2008, Uzun 1551
(KATO: 17760); Ormanüstü village, in
forest, 1691 m, 16.07.2008, Uzun 1579
(KATO: 17761); Ormanüstü village, in
forest, 1475 m, 21.07.2008, Uzun 1685
(KATO: 17762); ibid., 1745 m, 21.07.2008,
Uzun 1686 (KATO: 17763); Ormanüstü
village, in forest, 1205 m, 24.07.2008, Uzun
1735 (KATO: 17764). Euro-Sib. el.

F34 [6]. Saxifragaceae Juss.

94. *Saxifraga* L. – Taşkiran otu

156. *Saxifraga paniculata* Mill.

Ormanüstü village, rock cracks, 1680 m,
08.07.2005, Uzun 650 (KATO: 17789); ibid.,
1577 m, 08.07.2005, Uzun 651 (KATO:
17790); Ormanüstü village, rocky place,
1577 m, 05.08.2005, Uzun 774 (KATO:
17791); Ormanüstü plateau, rock cracks,
2000 m, 05.06.2006, Uzun 904 (KATO:
17792). Euro-Sib. el.

157. *Saxifraga rotundifolia* L. subsp.
rotundifolia

Ormanüstü village, wet rocky hills, 1300 m,
08.07.2005, Uzun 652 (KATO: 17793);
Ormanüstü village, forest edge, rocky hills,
1600 m, 05.08.2005, Uzun 775 (KATO:
17794). Euro-Sib. el.

**158. *Saxifraga cymbalaria* L. (syn.:
Saxifraga cymbalaria L. var. *huetiana***
(Boiss.) Engler & Irmscher)

Ormanüstü village, wet rocky place, 1500-
1750 m, 08.07.2005, Uzun 653 (KATO:
17796). Köprüyanı, over wet rock, 930 m,
23.05.2006, Uzun 870 (KATO: 17795).

F35 [7]. Crassulaceae J.St.-Hil.

95. *Phedimus* Raf.

159. *Phedimus spurius* (M.Bieb.) 't Hart
(syn.: *Sedum spurium* M.Bieb.)

Ormanüstü plateau, stony place, 1945 m,
08.07.2005, Uzun 645 (KATO: 17765);
Ormanüstü village, stony hill, 1100 m,
05.08.2005, Uzun 773 (KATO: 17766); ibid.,
850 m, 26.07.2006, Uzun 943 (KATO:
17767). Hyr.-Eux. el.

160. *Phedimus stoloniferus* (S.G.Gmel.) 't
Hart (syn.: *Sedum stoloniferum* S.G.Gmel.)

Köprüyanı district, in forest, 1001 m,
08.07.2008, Uzun 1284 (KATO: 17768);
Ormanüstü village, in forest, 1280 m,
09.07.2008, Uzun 1341 (KATO: 17769).
Hyr.-Eux. (mt.) el.

96. *Sedum* L. – Dam kuruğu

161. *Sedum acre* L.

Çeşmeler district, stony hill, 1050 m,
11.07.2007, Uzun 976 (KATO: 17770).

162. *Sedum gracile* C.A.Mey.

Ormanüstü plateau, stony place, 1945 m,
08.07.2005, Uzun 646 (KATO: 17771);
Ormanüstü village, coniferous-deciduous

mixed forest, 1172 m, 10.07.2008, Uzun 1372 (KATO: 17772); Ormanüstü village, in forest, 1467 m, 12.07.2008, Uzun 1447 (KATO: 17773); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1643 (KATO: 17774). Hyr.-Eux. (mt.) el.

163. *Sedum hispanicum* L.

Ormanüstü village, stony hill, 1750 m, 08.07.2005, Uzun 647 (KATO: 17775); ibid., 1615 m, 26.07.2006, Uzun 648 (KATO: 17776).

164. *Sedum pallidum* M.Bieb. var. *pallidum*
Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 903 (KATO: 17777); Çeşmeler district, roadside, 910 m, 18.06.2008, Uzun 1095 (KATO: 17778); Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1143 (KATO: 17779); Köprüyanı district, open forest, 701 m, 08.07.2008, Uzun 1285 (KATO: 17780); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1644 (KATO: 17781).

165. *Sedum pallidum* M.Bieb. var. *bithynicum* (Boiss.) Chamb.

Ormanüstü plateau, stony place, 1945 m, 08.07.2005, Uzun 649 (KATO: 17782); Çeşmeler district, stony hill, 1050 m, 11.07.2007, Uzun 977 (KATO: 17783); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1144 (KATO: 17784); Köprüyanı district, rocky place, 1017 m, 08.07.2008, Uzun 1286 (KATO: 17785); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1373 (KATO: 17786); Sukenarı district, open forest, 498 m, 11.07.2008, Uzun 1413 (KATO: 17787). Eux. el.

97. *Sempervivum* L. – Gelin parmağı

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

Köprüyanı, roadside slope, 750 m, 11.07.2007, Uzun 978 (KATO: 17788). Eux. (mt.) el., **Endemic**, IUCN: NT

ROSIDS

Vitales Juss. ex Bercht. & J.Presl

F36 [8]. Vitaceae Juss.

98. *Vitis* L.

167. *Vitis vinifera* L. (syn.: *Vitis sylvestris* C.C.Gmel.) – Yabani üzüm

Çatak, rocky slopes, 400 m, 11.07.2008, Uzun 1422 (KATO: 18005).

Fabales Bromhead

F37 [9]. Fabaceae Lindl. (= Leguminosae Juss.)

99. *Genista* L.

168. *Genista tinctoria* L. – Katır tırnağı
Çeşmeler district, stony rocky hill, 750 m, 01.06.2008, Uzun 1060 (KATO: 17869); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1153 (KATO: 17870); Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1154 (KATO: 17871). Euro-Sib. el.

100. *Argyrolobium* Eckl. & Zeyh.

169. *Argyrolobium biebersteinii* P.W.Ball
Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1293 (KATO: 17872); Köprüyanı district, in forest, 964 m, 08.07.2008, Uzun 1294 (KATO: 17873); Çatak, open forest, 458 m, 14.07.2008, Uzun 1461 (KATO: 17874); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1462 (KATO: 17875); Çatak, hill, 1000 m, 14.07.2008, Uzun 1463 (KATO: 17876); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1821 (KATO: 17877).

101. *Robinia* L.

170. *Robinia pseudoacacia* L. – Beyaz çiçekli yalancı akasya
Köprüyanı district, roadside, 700 m, 23.05.2006, Uzun 875 (KATO: 17878). Exotic

102. *Astragalus* L. – Geven

171. *Astragalus glycyphyllos* L.

Ormanüstü village, roadside slope, 929 m, 08.07.2005, Uzun 666 (KATO: 17879). Eux. el.

172. *Astragalus ovatus* DC.

Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1061 (KATO: 17880); ibid., 910 m, 18.06.2008, Uzun 1097 (KATO: 17881); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1155 (KATO: 17882).

Endemic, IUCN: previously DD, but revised as EN by Ekici (2000)

173. *Astragalus viciifolius* DC.

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1156 (KATO: 17883); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1822 (KATO: 17884).

174. *Astragalus viridissimus* Freyn & Sint.

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1157 (KATO: 17885); Yukarıköy village, stony hill, 800 m, 14.07.2008, Uzun 1464 (KATO: 17886). Eux. el., **Endemic**, IUCN: LC

175. *Astragalus ansinii* Uzun, Terzioğlu & Pal.-Uzun

Çeşmeler district, stony hill, 750 m, 18.06.2008, Uzun 492 (KATO: 17887); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 493 (KATO: 17888). Eux. el., **Endemic**, IUCN: CR

103. *Bituminaria* C.H.Stirt.

176. *Bituminaria bituminosa* (L.) C.H.Stirt. (syn.: *Psoralea bituminosa* L.)

Çeşmeler district, open place, 440 m, 08.07.2005, Uzun 667 (KATO: 17889); Köprüyanı, forest edge, 900 m, 11.07.2007, Uzun 982 (KATO: 17890); Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1158 (KATO: 17891); Sukenarı district, forest edge, 663 m, 07.07.2008, Uzun 1159 (KATO: 17892); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1465 (KATO: 17893). Medit. el.

104. *Vicia* L. – Fiğ

177. *Vicia cracca* L. subsp. *cracca*

Ormanüstü village, grassy place, 1000 m, 08.07.2005, Uzun 668 (KATO: 17894). Euro-Sib. el.

178. *Vicia villosa* Roth

Çeşmeler district, roadside, 650 m, 01.06.2008, Uzun 1062 (KATO: 17895); Yukarıköy village, afforestation site, 836 m, 18.07.2008, Uzun 1628 (KATO: 17896); Çamlıdüz plateau, in forest, 1769 m, 22.07.2008, Uzun 1714 (KATO: 17897).

179. *Vicia sepium* L.

Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1376 (KATO: 17898). Euro-Sib. el.

180. *Vicia sativa* L.

Ormanüstü village, open place, 1500 m, 05.08.2005, Uzun 778 (KATO: 17899). Cosmopolitan

***181. *Vicia segetalis* Thuill (syn.: *Vicia sativa* L. subsp. *nigra* (L.) Ehrh. var. *segetalis* (Thuill.) Ser. ex DC.)**

Ormanüstü village, grassy place, 980 m, 08.07.2005, Uzun 669 (KATO: 17900).

105. *Lathyrus* L. – Mürdümük

182. *Lathyrus aureus* (G.Lodd. ex Drapiez) D.Brândză

Ormanüstü village, in forest, 1745 m, 21.07.2008, Uzun 1689 (KATO: 17901). Eux. el.

183. *Lathyrus vernus* (L.) Bernh.

Köprüyanı district, in forest, 964 m, 08.07.2008, Uzun 1295 (KATO: 17902); Çatak, in forest, 486 m, 14.07.2008, Uzun 1466 (KATO: 17903); Ormanüstü village, in forest, 1205 m, 24.07.2008, Uzun 1738 (KATO: 17904); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1823 (KATO: 17905). Euro-Sib. el.

184. *Lathyrus laxiflorus* (Desf.) O.Kuntze subsp. *laxiflorus*

Köprüyanı district, open forest, 600 m, 23.05.2006, Uzun 876 (KATO: 17906); Çatak, in forest, 486 m, 14.07.2008, Uzun 1467 (KATO: 17907).

106. *Ononis* L.

***185. *Ononis pusilla* L.**

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1160 (KATO: 17908). Medit. el.

107. *Trifolium* L. – Üçgül

186. *Trifolium repens* L.

Ormanüstü village, grassy place, 950 m, 08.07.2005, Uzun 670 (KATO: 17909); Ormanüstü village, open forest, 1770 m, 08.07.2005, Uzun 671 (KATO: 17910).

187. *Trifolium spadiceum* L.

Ormanüstü village, streamside, 1600 m, 17.07.2008, Uzun 1601 (KATO: 17911). Euro-Sib. el.

188. *Trifolium aureum* Pollich subsp. *aureum*
Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1824 (KATO: 17912). Euro-Sib. el.

189. *Trifolium pratense* L. subsp. *pratense*
Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1771 (KATO: 17913); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1772 (KATO: 17914), Cosmopolitan

190. *Trifolium ochroleucon* Huds.

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 908 (KATO: 17915); Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1161 (KATO: 17916); Köprüyanı district, in forest, 701 m, 08.07.2008, Uzun 1296 (KATO: 17917); Köprüyanı district, rocky place, 1017 m, 08.07.2008, Uzun 1297 (KATO: 17918); Çatak, open forest, 458 m, 14.07.2008, Uzun 1468 (KATO: 17919); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1469 (KATO: 17920).

191. *Trifolium canescens* Willd.

Ormanüstü village, grassy place, 1680 m, 08.07.2005, Uzun 672 (KATO: 17921); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1377 (KATO: 17922). Hyr.-Eux. el.

192. *Trifolium arvense* L. subsp. *arvense*

Köprüyanı district, in forest, 701 m, 08.07.2008, Uzun 1298 (KATO: 17923); Köprüyanı district, rocky place, 1017 m, 08.07.2008, Uzun 1299 (KATO: 17924).

108. *Trigonella* L. – Taş yoncası

193. *Trigonella officinalis* (L.) Coulot & Rabaute (syn.: *Melilotus officinalis* (L.) Desr.)

Ormanüstü village, roadside, 900 m, 05.08.2005, Uzun 779 (KATO: 17925); Çeşmeler district, roadside, 700 m, 26.07.2006, Uzun 945 (KATO: 17926); Sukenarı district, roadside, 685 m, 11.07.2007, Uzun 983 (KATO: 17927).

109. *Medicago* L. – Yonca

***194. *Medicago orbicularis* (L.) Bartal.**

Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1416 (KATO: 17928).

195. *Medicago lupulina* L.

Ormanüstü village, open place, 440 m, 08.07.2005, Uzun 673 (KATO: 17929); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1470 (KATO: 17930).

196. *Medicago sativa* L.

Sukenarı village, roadside, 420 m, 11.07.2008, Uzun 1417 (KATO: 17931).

197. *Medicago* × *varia* Martyn

Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1162 (KATO: 17932); ibid., 437 m, 07.07.2008, Uzun 1163 (KATO: 17933).

198. *Medicago falcata* L.

Çeşmeler district, stony hill, 1050 m, 11.07.2007, Uzun 948 (KATO: 17934); Çeşmeler district, roadside slope, 720 m, 01.06.2008, Uzun 1063 (KATO: 17935); Çeşmeler district, stony-grassy place, 890 m, 18.06.2008, Uzun 1099 (KATO: 17936); Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1164 (KATO: 17937); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1418 (KATO: 17938); Çatak, open forest, 458 m, 14.07.2008, Uzun 1471 (KATO: 17939); Çatak, roadside slope, 1000 m, 14.07.2008, Uzun 1472 (KATO: 17940).

199. *Medicago minima* (L.) L.

Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1419 (KATO: 17941).

110. *Lotus* L. – Gazelboynuzu

200. *Lotus graecus* L. (syn.: *Dorycnium graecum* (L.) Ser.)

Köprüyanı, roadside slope, 730 m, 11.07.2007, Uzun 985 (KATO: 17942). Eux. el.

201. *Lotus herbaceus* (Vill.) Jauzein (syn.: *Dorycnium pentaphyllum* Scop. subsp. *herbaceum* (Vill.) Rouy)

Çeşmeler district, roadside, 444 m, 08.07.2005, Uzun 674 (KATO: 17943); ibid., open place, 458 m, 05.08.2005, Uzun 780 (KATO: 17944); Köprüyanı, roadside slope, 700 m, 11.07.2007, Uzun 986 (KATO: 17945); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1165 (KATO: 17946); ibid., 634 m, 07.07.2008, Uzun 1166 (KATO: 17947); Sukenarı district, open forest, 498 m, 11.07.2008, Uzun 1420 (KATO: 17948); Çatak, open forest, 458 m, 14.07.2008, Uzun 1473 (KATO: 17949); ibid. in forest, 483 m, 14.07.2008, Uzun 1474 (KATO: 17950).

202. *Lotus corniculatus* L. subsp. *corniculatus*

Çatak, in forest, 1010 m, 14.07.2008, Uzun 1475 (KATO: 17951); Ormanüstü village, roadside slope, 1230 m, 13.08.2005, Uzun 855 (KATO: 17952).

203. *Lotus corniculatus* L. subsp. *alpinus* (DC.) Rothm.

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 909 (KATO: 17953); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1378 (KATO: 17954);

Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1773 (KATO: 17955).

111. *Anthyllis* L.

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

Ormanüstü plateau, grassy place, 2000 m, 16.07.2008, Uzun 1580 (KATO: 17956).

112. *Securigera* DC.

205. *Securigera varia* (L.) Lassen (syn.: *Coronilla varia* L. subsp. *varia*) – Körigen
Ormanüstü village, open place, 1700 m, 08.07.2005, Uzun 675 (KATO: 17957);
Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1167 (KATO: 17958);
Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1476 (KATO: 17959).

206. *Securigera orientalis* (Mill.) Lassen subsp. *balansae* (Boiss.) Keskin (syn.: *Coronilla orientalis* Mill. var. *balansae* (Boiss.) Uhrova)

Çeşmeler district, roadside slope, 850 m, 11.07.2007, Uzun 987 (KATO: 17960).

113. *Scorpiurus* L.

207. *Scorpiurus subvillosus* L. (syn.: *Scorpiurus muricatus* L. var. *subvillosus* (L.) Fiori)

Çeşmeler district, roadside slope, 700 m, 05.06.2006, Uzun 910 (KATO: 17961).
Medit. el.

114. *Onobrychis* Adans.

208. *Onobrychis arenaria* (Kit.) DC. subsp. *cana* (Boiss.) Hayek (syn.: *Onobrychis oxydonta* Boiss. var. *armena* (Boiss. & A. Huet) Ponert, *Onobrychis armena* Boiss. & A. Huet)

Çeşmeler district, shrubby place, 800 m, 01.06.2008, Uzun 1064 (KATO: 17962);
Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1168 (KATO: 17963);
ibid., 583 m, 07.07.2008, Uzun 1169 (KATO: 17964). **Endemic, IUCN: LC**

F38 [10]. Polygalaceae Hoffmanns. & Link

115. *Polygala* L.

209. *Polygala pruinosa* Boiss. subsp. *pruinosa*

Çatak, in forest, 483 m, 14.07.2008, Uzun 1479 (KATO: 18014); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1827 (KATO: 18015).

210. *Polygala major* Jacq.

Ormanüstü plateau, open place, 1800 m, 05.08.2005, Uzun 784 (KATO: 18016);
Çeşmeler district, in *Carpinus orientalis* forest, 890 m, 18.06.2008, Uzun 1101 (KATO: 18017). Euro-Sib. el.

211. *Polygala comosa* Schkuhr

Ormanüstü plateau, grassy place, 1815 m, 08.07.2005, Uzun 680 (KATO: 18018).

212. *Polygala alpestris* Rchb. subsp. *alpestris*

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 914 (KATO: 18019); ibid., 1850 m, 16.07.2008, Uzun 1581 (KATO: 18020);
Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1775 (KATO: 18021). Euro-Sib. el.

Rosales Bercht. & J.Presl

F39 [11]. Rosaceae Juss.

116. *Aruncus* Adanson

213. *Aruncus dioicus* (Walter) Fernald (syn.: *Aruncus vulgaris* L.) – Kamçıbiyık
Ormanüstü village, deciduous forest edge, 1300 m, 10.05.2005, Uzun 575 (KATO: 17797).

117. *Prunus* L.

214. *Prunus laurocerasus* L. (syn.: *Laurocerasus officinalis* M.Roem.) – Karayemiş

Ormanüstü village, damp creekside, 1560 m, 05.06.2006, Uzun 905 (KATO: 17798).

215. *Prunus domestica* L. – Erik

Ormanüstü village, roadside, 1100 m, 05.06.2006, Uzun 906 (KATO: 17799).

216. *Prunus ceracifera* Ehrh. (syn.: *Prunus divaricata* Ledeb. var. *divaricate*)

Kiremitli district, roadside, 900 m, 13.07.2007, Uzun 1034 (KATO: 17800).

217. *Prunus avium* (L.) L. (syn.: *Cerasus avium* (L.) Moench) – Kiraz

Ormanüstü village, roadside, 1370 m, 10.05.2005, Uzun 576 (KATO: 17801).

118. *Rubus* L. – Böğürtlen

218. *Rubus idaeus* L. subsp. *idaeus* – Ahududu

Çamlıdüz plateau, forest edge, 1769 m, 22.07.2008, Uzun 1711 (KATO: 17802).

219. *Rubus sanctus* Schreb.

Ormanüstü village, roadside, 1200 m, 08.07.2005, Uzun 654 (KATO: 17803); Köprüyanı district, forest edge, 600 m, 23.05.2006, Uzun 871 (KATO: 17804).

220. *Rubus hirtus* Waldst. & Kit. **group.**

Köprüyanı district, forest edge, 910 m, 23.05.2006, Uzun 872 (KATO: 17805). Eux. el.

221. *Rubus caucasicus* Focke

Ormanüstü village, in forest, 1600 m, 05.06.2006, Uzun 907 (KATO: 17806). Eux. el.

119. *Potentilla* L. – Beşparmak otu

222. *Potentilla argentea* L.

Çeşmeler district, grassy place, 800 m, 18.06.2008, Uzun 1096 (KATO: 17807).

223. *Potentilla erecta* (L.) Raeusch.

Ormanüstü plateau, grassy place, 1945 m, 08.07.2005, Uzun 655 (KATO: 17808); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1645 (KATO: 17809).

224. *Potentilla elatior* Willd. ex D.F.K.Schltl.

Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1342 (KATO: 17810); Çamlıdüz plateau, in forest, 1769 m, 22.07.2008, Uzun 1712 (KATO: 17811). Eux. el.

225. *Potentilla micrantha* Ramond ex DC.

Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1688 (KATO: 17812).

120. *Fragaria* L.

226. *Fragaria vesca* L. – Orman çileği

Köprüyanı, roadside slope, 930 m, 23.05.2006, Uzun 873 (KATO: 17813).

121. *Sibbaldia* L.

227. *Sibbaldia parviflora* Willd. var. *parviflora*

Ormanüstü plateau, grassy place, 1800 m, 10.05.2005, Uzun 577 (KATO: 17814).

122. *Geum* L.

228. *Geum coccineum* Sm.

Ormanüstü plateau, grassy place, 1900 m, 05.08.2005, Uzun 776 (KATO: 17815). Euro-Sib. el.

229. *Geum urbanum* L. – Su karanfili

Köprüyanı district, grassy place, 600 m, 23.05.2006, Uzun 874 (KATO: 17816). Euro-Sib. el.

123. *Agrimonia* L.

230. *Agrimonia eupatoria* L. subsp. *eupatoria*

Çeşmeler district, forest edge, 595 m, 08.07.2005, Uzun 656 (KATO: 17817); Ormanüstü village, roadside slope, 700 m, 26.07.2006, Uzun 944 (KATO: 17818); Köprüyanı, forest edge, 900 m, 11.07.2007, Uzun 979 (KATO: 17819).

124. *Aremonia* Nestler

231. *Aremonia agrimonoides* (L.) DC. subsp. *agrimonoides*

Ormanüstü plateau, pure *Picea orientalis* stand, 1614 m, 10.07.2008, Uzun 1374 (KATO: 17820); Ormanüstü village, in forest, 1479 m, 12.07.2008, Uzun 1449 (KATO: 17821). Euro-Sib. el.

125. *Poterium* L.

232. *Poterium sanguisorba* L. subsp. *balearicum* (Bourg. ex Nyman) Stace (**syn.:** *Sanguisorba minor* Scop. subsp. *muricata* (Spach) Briq.)

Ormanüstü village, open hilly place, 929 m, 08.07.2005, Uzun 657 (KATO: 17822); Çeşmeler district, stony hill, 1050 m, 11.07.2007, Uzun 980 (KATO: 17823).

126. *Alchemilla* L. – Aslan pençesi

233. *Alchemilla caucasica* Buser

Ormanüstü plateau, grassy place, 1900 m, 08.07.2005, Uzun 658 (KATO: 17824); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1646 (KATO: 17825); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1766 (KATO: 17826); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1767 (KATO: 17827). Eux. (mt.) el.

***234.** *Alchemilla valdehirsuta* Buser

Ormanüstü village, roadside damp place, 1550 m, 08.07.2005, Uzun 659 (KATO: 17828); Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1343 (KATO:

17829); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1647 (KATO: 17830).

235. *Alchemilla orthotricha* Rothm.

Ormanüstü village, roadside damp place, 1550 m, 08.07.2005, Uzun 660 (KATO: 17831). Eux. (mt.) el., **Rare**, IUCN: VU

236. *Alchemilla holotricha* Juz.

Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1344 (KATO: 17832).

Rare, IUCN: VU

237. *Alchemilla hirtipedicellata* Juz.

Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1768 (KATO: 17833); Ormanüstü plateau, stony degraded spruce forest, 2010 m, 02.08.2008, Uzun 1769 (KATO: 17834). Eux. (mt.) el.

238. *Alchemilla mollis* (Buser) Rothm

Ormanüstü village, damp hill, 1500-1750 m, 08.07.2005, Uzun 661 (KATO: 17835); Çamlıdüz plateau, damp hill, 1574 m, 17.07.2008, Uzun 1600 (KATO: 17836); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1648 (KATO: 17837).

239. *Alchemilla speciosa* Buser

Ormanüstü village, forest edge, 1750 m, 10.05.2005, Uzun 578 (KATO: 17838); Ormanüstü village, damp hill, 1500-1750 m, 08.07.2005, Uzun 662 (KATO: 17839); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1649 (KATO: 17840); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1770 (KATO: 17841). **Rare**, IUCN: VU

240. *Alchemilla persica* Rothm.

Ormanüstü village, roadside damp place, 1550 m, 08.07.2005, Uzun 663 (KATO: 17842). Ir.-Tur. el.

***241. *Alchemilla ikizdereensis* Kalheber**

Ormanüstü village, roadside damp place, 1550 m, 08.07.2005, Uzun 664 (KATO: 17843). Eux. el., **Endemic**, IUCN: EN

127. *Rosa* L. – Yabani gül, Kuşburnu

242. *Rosa boissieri* Crép. (syn.: *Rosa montana* Chaix subsp. *woronowii* (Lonacz.) Ö.Nilsson)

Çamlıdüz plateau, in forest, 1769 m, 22.07.2008, Uzun 1713 (KATO: 17844).

243. *Rosa canina* L. – Yabani gül

Ormanüstü village, open forest, 1770 m, 08.07.2005, Uzun 665 (KATO: 17845); Sukenarı district, forest edge, 640 m,

07.07.2008, Uzun 1145 (KATO: 17846); Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1146 (KATO: 17847); Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1287 (KATO: 17848).

128. *Cotoneaster Medik.* – Taş elması

244. *Cotoneaster morulus* Pojark

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1147 (KATO: 17849).

129. *Pyracantha M.Roem.*

245. *Pyracantha coccinea* M.Roem. – Ateş dikenini, Tavşan elması

Çeşmeler district, çalılık, 583 m, 07.07.2008, Uzun 1148 (KATO: 17850); Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1149 (KATO: 17851).

130. *Crataegus* L. – Alıç

246. *Crataegus rhipidophylla* Gand. var. *rhipidophylla* (syn.: *Crataegus curvisepala* Lindman)

Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1150 (KATO: 17852); Köprüyanı district, in forest, 964 m, 08.07.2008, Uzun 1288 (KATO: 17853); Çatak, in forest, 1010 m, 14.07.2008, Uzun 1459 (KATO: 17854); Çatak, in forest, 486 m, 14.07.2008, Uzun 1460 (KATO: 17855); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1818 (KATO: 17856).

247. *Crataegus monogyna* Jacq. var. *monogyna* – Geyik dikenini

Çeşmeler district, in forest, 1020 m, 08.07.2008, Uzun 1289 (KATO: 17857); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1819 (KATO: 17858).

248. *Crataegus microphylla* K.Koch

Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1290 (KATO: 17859); Köprüyanı district, open forest, 719 m, 11.07.2008, Uzun 1414 (KATO: 17860); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1820 (KATO: 17861). Hyr.-Eux. el.

131. *Sorbus* L. – Üvez

249. *Sorbus aucuparia* L. subsp. *aucuparia*

Ormanüstü village, in forest, 1700 m, 05.08.2005, Uzun 777 (KATO: 17862). Euro-Sib. el.

250. *Sorbus torminalis* (L.) Crantz var. *torminalis*

Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1151 (KATO: 17863); Köprüyanı district, rocky place, 1017 m, 08.07.2008, Uzun 1291 (KATO: 17864); Ormanüstü village, coniferous-broadleaf mixed forests, 1172 m, 10.07.2008, Uzun 1375 (KATO: 17865). Euro-Sib. el.

132. *Malus* Mill. – Elma

251. *Malus sylvestris* (L.) Mill. subsp. *orientalis* (Uglitzk.) Browicz var. *orientalis*
Çeşmeler district, shrubby place, 437 m, 07.07.2008, Uzun 1152 (KATO: 17866); Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1292 (KATO: 17867).

133. *Pyrus* L. – Armut

252. *Pyrus communis* L. subsp. *communis*
Sukenarı district, side of forest, 650 m, 11.07.2007, Uzun 981 (KATO: 17868). Cultivated

F40 [12]. Rhamnaceae Juss.

134. *Paliurus* P.Mill.

253. *Paliurus spina-christi* Mill. – Kara çalı
Çeşmeler district, stony hills, 435 m, 07.07.2008, Uzun 1180 (KATO: 18002); ibid., 490 m, 07.07.2008, Uzun 1181 (KATO: 18003).

135. *Frangula* Mill.

254. *Frangula alnus* Mill. subsp. *alnus* – Barut ağacı
Ormanüstü plateau, open forest edge, 1780 m, 05.06.2006, Uzun 913 (KATO: 18004). Euro-Sib. el.

F41 [13]. Ulmaceae Mirb.

136. *Ulmus* L. – Karaağaç

255. *Ulmus glabra* Huds. – Dağ karaağacı
Ormanüstü village, forest edge, 950 m, 08.07.2005, Uzun 622 (KATO: 17567); Köprüyanı district, in forest, 1050 m, 23.05.2006, Uzun 863 (KATO: 17568); Çatak, in forest, 483 m, 14.07.2008, Uzun 1456 (KATO: 17569). Euro-Sib. el.

256. *Ulmus minor* Mill. subsp. *minor* – Ova karaağacı

Çeşmeler district, in forest, 458 m, 05.08.2005, Uzun 762 (KATO: 17570).

F42 [14]. Cannabaceae Martinov

137. *Celtis* L. – Çitlenbik

257. *Celtis australis* L. subsp. *australis* – Çitlenbik
Köprüyanı district, forest edge, 580 m, 10.05.2005, Uzun 564 (KATO: 17571). Medit. el.

F43 [15]. Moraceae Gaudich.

138. *Ficus* L. – İncir

258. *Ficus carica* L. subsp. *carica*
Ormanüstü village, roadside, 929 m, 08.07.2005, Uzun 623 (KATO: 17572).

F44 [16]. Urticaceae Juss.

139. *Parietaria* L.

259. *Parietaria judaica* L. – Yapışkan otu, Duvar fesleğeni
Çatak, stony place, 490 m, 08.07.2005, Uzun 624 (KATO: 17573).

140. *Urtica* L.

260. *Urtica dioica* L. subsp. *dioica* – Isırgan otu
Çeşmeler district, roadside, 600 m, 15.06.2005, Uzun 620 (KATO: 17574). Euro-Sib. el.

Fagales Engl.

F45 [17]. Fagaceae Dumort.

141. *Fagus* L. – Kayın

261. *Fagus orientalis* Lipsky – Doğu kayını
Ormanüstü village, in forest, 1070 m, 05.08.2005, Uzun 763 (KATO: 17576); ibid., 1400 m, 05.08.2005, Uzun 764 (KATO: 17577); Köprüyanı district, in forest, 970 m, 11.07.2008, Uzun 1407 (KATO: 17578). Euro-Sib. el.

142. *Castanea* Mill. – Kestane

262. *Castanea sativa* Mill. – Anadolu kestanesi
Ormanüstü village, in forest, 1300 m, 10.05.2005, Uzun 565 (KATO: 17579). Euro-Sib. el.

143. *Quercus* Mill. – Meşe

263. *Quercus hartwissiana* Steven – Istranca meşesi

Sukenarı district, in forest, 650 m, 11.07.2007, Uzun 970 (KATO: 17580). Eux. el.

264. *Quercus petraea* (Matt.) Liebl. subsp. *iberica* (Steven ex M.Bieb.) Krassiln. – Sapsız meşe

Ormanüstü village, in forest, 929 m, 08.07.2005, Uzun 625 (KATO: 17581); Köprüyanı district, in forest, 600 m, 23.05.2006, Uzun 864 (KATO: 17582); Sukenarı district, in forest, 650 m, 11.07.2007, Uzun 971 (KATO: 17583).

F46 [18]. Juglandaceae DC. ex Perleb

144. *Juglans* L. – Ceviz

265. *Juglans regia* L. – Adi ceviz

Sukenarı village, roadside, 680 m, 08.07.2008, Uzun 1275 (KATO: 17575).

F47 [19]. Betulaceae Gray

145. *Carpinus* L. – Gürgen

266. *Carpinus betulus* L. – Adi gürgen

Ormanüstü village, in forest, 950 m, 08.07.2005, Uzun 626 (KATO: 17584); Ormanüstü village, in forest, 1577 m, 08.07.2005, Uzun 627 (KATO: 17585). Euro-Sib. el.

267. *Carpinus orientalis* Mill. subsp. *orientalis* – Doğu gürgeni

Çeşmeler district, in forest, 490 m, 07.07.2008, Uzun 1121 (KATO: 17586); Köprüyanı district, in forest, 860 m, 08.07.2008, Uzun 1276 (KATO: 17587).

146. *Alnus* Mill. – Kızılağaç

268. *Alnus glutinosa* (L.) Gaertn. subsp. *barbata* (C.A. Mey.) Yalt. – Sakallı kızılağaç
Ormanüstü village, in forest, 1577 m, 08.07.2005, Uzun 628 (KATO: 17588). Eux. el.

147. *Corylus* L. – Fındık

269. *Corylus avellana* L. var. *avellana* – Adi fındık

Ormanüstü village, in forest, 1577 m, 08.07.2005, Uzun 629 (KATO: 17589); ibid., 1067 m, 24.07.2008, Uzun 1734 (KATO: 17590). Euro-Sib. el.

270. *Corylus avellana* L. var. *pontica* (K.Koch) H.J.P.Winkl. – Adi fındık

Köprüyanı district, in forest, 1100 m, 23.05.2006, Uzun 865 (KATO: 17591). Eux. el.

Cucurbitales Juss. ex Bercht. & J.Presl

F48 [20]. Datisceae Dumort.

148. *Datisca* L.

271. *Datisca cannabina* L. – Renk otu
Yukarıköy village, shrubby place, 1050 m, 05.08.2005, Uzun 772 (KATO: 17686).

Celastrales Link

F49 [21]. Celastraceae R.Br., nom. cons.

149. *Euonymus* L. - Papaz Külahı

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

Ormanüstü village, in forest, 1133 m, 15.07.2008, Uzun 1552 (KATO: 17981); ibid., 1622 m, 15.07.2008, Uzun 1553 (KATO: 17982). Euro-Sib. el.

273. *Euonymus europaeus* L. – İğ ağacı
Ormanüstü village, in forest, 1642 m, 15.07.2008, Uzun 1554 (KATO: 17983).

Oxalidales Bercht. & J.Presl

F50 [22]. Oxalidaceae R.Br., nom. cons.

150. *Oxalis* L.

274. *Oxalis acetosella* L. – Ekşi yonca
Ormanüstü village, in forest, 1280 m, 09.07.2008, Uzun 1345 (KATO: 18045).

Malpighiales Juss. ex Bercht. & J.Presl

F51 [23]. Hypericaceae Juss.

151. *Hypericum* L. – Sarı kantaron, Koyun kıran, Binbirdelik otu

275. *Hypericum androsaemum* L.

Ormanüstü village, shrubby place, 1050 m, 05.08.2005, Uzun 770 (KATO: 17652); Ormanüstü village, coniferous-broadleaf mixed forests, 1172 m, 10.07.2008, Uzun 1367 (KATO: 17653).

276. *Hypericum bithynicum* Boiss.

Çeşmeler district, shrubby place, 08.07.2005, 440 m, Uzun 637 (KATO: 17654); Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1340 (KATO: 17655);

ibid, afforestation site, 1862 m, 02.08.2008, Uzun 1763 (KATO: 17656). Eux. el.

277. *Hypericum orientale* L.

Ormanüstü village, forest edge, 1750 m, 08.07.2005, Uzun 638 (KATO: 17657); Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1130 (KATO: 17658); Köprüyanı district, open forest, 701 m, 08.07.2008, Uzun 1280 (KATO: 17659); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1368 (KATO: 17660).

278. *Hypericum perforatum* L. subsp. *perforatum*

Ormanüstü village, forest-pathside, 929 m, 08.07.2005, Uzun 639 (KATO: 17661); ibid., shrubby place, 1200 m, 08.07.2005, Uzun 640 (KATO: 17662); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1816 (KATO: 17663).

F52 [24]. *Violaceae* Batsch

152. *Viola* L. – Menekşe

279. *Viola odorata* L. – Kokulu menekşe
Ormanüstü village, open forest, 1195 m, 06.08.2008, Uzun 1817 (KATO: 17681).

280. *Viola sieheana* W.Becker
Çatak, in forest, 486 m, 14.07.2008, Uzun 1457 (KATO: 17682); Ormanüstü village, open forest, 1627 m, 15.07.2008, Uzun 1544 (KATO: 17683); Çamlıdüz plateau, in forest, 1589 m, 17.07.2008, Uzun 1592 (KATO: 17684).

281. *Viola altaica* Ker Gawl. subsp. *oreades* (M.Bieb.) W.Becker
Ormanüstü plateau, grassy place, 1960 m, 10.05.2005, Uzun 568 (KATO: 17685).

F53 [25]. *Salicaceae* Mirb.

153. *Salix* L. – Söğüt

282. *Salix alba* L. – Ak söğüt
Çeşmeler district, streamside, 490 m, 26.07.2006, Uzun 935 (KATO: 17687). Euro-Sib. el.

283. *Salix* × *fragilis* L. – Gevrek söğüt
Çeşmeler district, streamside, 490 m, 26.07.2006, Uzun 936 (KATO: 17688). Euro-Sib. el.

284. *Salix caprea* L. – Keçi söğüdü
Yenimahalle, forest edge, 760 m, 26.07.2006, Uzun 937 (KATO: 17689); Sukenarı district,

in forest, 650 m, 11.07.2007, Uzun 974 (KATO: 17690). Euro-Sib. el.

154. *Populus* L. – Kavak

285. *Populus tremula* L. – Titrek kavak
Ormanüstü village, in forest, 1500 m, 26.07.2006, Uzun 938 (KATO: 17691); Yenimahalle, forest edge, 700 m, 26.07.2006, Uzun 939 (KATO: 17692). Euro-Sib. el.

286. *Populus nigra* L. subsp. *nigra* – Kara kavak

Çeşmeler district, field-side, 490 m, 26.07.2006, Uzun 940 (KATO: 17693).

F54 [26]. *Euphorbiaceae* Juss.

155 *Mercurialis* L.

287. *Mercurialis annua* L. – Yer fesleğeni
Ormanüstü village, open place, 990 m, 05.08.2005, Uzun 783 (KATO: 17986); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1175 (KATO: 17987).

156 *Euphorbia* L. – Sütleşen

***288. *Euphorbia chamaesyce* L.**
Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1176 (KATO: 17988).

289. *Euphorbia stricta* L.
Ormanüstü plateau, roadside, 1800 m, 10.05.2005, Uzun 579 (KATO: 17989); Köprüyanı district, roadside, 890 m, 11.07.2007, Uzun 988 (KATO: 17990). Euro-Sib. el.

290. *Euphorbia peplus* L.
Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1177 (KATO: 17991).

291. *Euphorbia falcata* L. subsp. *falcata* var. *falcata*
Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1178 (KATO: 17992); Köprüyanı district, roadside, 890 m, 11.07.2007, Uzun 989 (KATO: 17993).

292. *Euphorbia herniariifolia* Willd. var. *glaberrima* Halácsy
Kiremitli, roadside stony place, 717 m, 13.07.2007, Uzun 1035 (KATO: 17994); Çeşmeler, roadside stony place, 437 m, 07.07.2008, Uzun 1179 (KATO: 17995).

293. *Euphorbia oblongifolia* (K.Koch) K.Koch
Ormanüstü village, in forest, 1850 m, 08.07.2005, Uzun 678 (KATO: 17996); Ormanüstü village, open forest, 1350 m,

08.07.2005, Uzun 679 (KATO: 17997);
Çamlıdüz plateau, in forest, 1720 m,
17.07.2008, Uzun 1602 (KATO: 17998);
Çamlıdüz plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1653 (KATO: 17999);
Çeşmeler district, degraded spruce forest,
541 m, 06.08.2008, Uzun 1825 (KATO:
18000). Eux. el.

294. *Euphorbia amygdaloides* L. subsp.
amygdaloides
Çatak, afforestation site, 477 m, 14.07.2008,
Uzun 1477 (KATO: 18001). Euro-Sib. el.

F55 [27]. Linaceae DC. ex Perleb

157. *Linum* L. – Keten otu

295. *Linum corymbulosum* Rchb.
Çeşmeler district, stony-grassy place, 490 m,
07.07.2008, Uzun 1182 (KATO: 18006);
ibid., 583 m, 07.07.2008, Uzun 1183 (KATO:
18007); Çeşmeler district, stony hill, 632 m,
11.07.2008, Uzun 1423 (KATO: 18008);
Çatak, afforestation site, 477 m, 14.07.2008,
Uzun 1478 (KATO: 18009). Medit. el.

296. *Linum aroanium* Boiss. & Orph.
Çeşmeler district, stony hill, 880 m,
18.06.2008, Uzun 1100 (KATO: 18010).

297. *Linum tenuifolium* L.
Çeşmeler district, stony hill, 750 m,
01.06.2008, Uzun 1065 (KATO: 18011);
ibid., 490 m, 07.07.2008, Uzun 1184 (KATO:
18012); Çatak, afforestation site, 873 m,
06.08.2008, Uzun 1826 (KATO: 18013).

F56 [28]. Phyllanthaceae Martinov

158. *Andrachne* L.

298. *Andrachne telephioides* L.
Çeşmeler district, stony hill, 437 m,
07.07.2008, Uzun 1174 (KATO: 17985).

Geraniales Juss. ex Bercht. & J.Presl

F57 [29]. Geraniaceae Juss.

159. *Geranium* L. – Turna gagası

299. *Geranium robertianum* L.
Köprüyanı district, stony place, 1130 m,
23.05.2006, Uzun 879 (KATO: 18046).

300. *Geranium columbinum* L.
Çeşmeler district, stony hill, 632 m,
11.07.2008, Uzun 1424 (KATO: 18047).

301. *Geranium psilostemon* Ledeb.

Ormanüstü village, forest edge, 1280 m,
09.07.2008, Uzun 1346 (KATO: 18048).
Eux. (mt.) el.

302. *Geranium sylvaticum* L.

Ormanüstü village, forest edge, 1770 m,
08.07.2005, Uzun 683 (KATO: 18049);
Çamlıdüz plateau, in forest, 1589 m,
17.07.2008, Uzun 1603 (KATO: 18050);
Çamlıdüz plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1654 (KATO: 18051).
Euro-Sib. el.

303. *Geranium sintenisii* Freyn (**syn.:**
Geranium asphodeloides Burm. fil. subsp.
sintenisii (Freyn) P.H.Davis)

Çamlıdüz plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1655 (KATO: 18052).
Eux. el., **Endemic**, IUCN: LC

304. *Geranium sanguineum* L.

Sukenarı district, in forest, 663 m,
07.07.2008, Uzun 1188 (KATO: 18053);
Çeşmeler district, stony hill, 942 m,
08.07.2008, Uzun 1302 (KATO: 18054).
Euro-Sib. el.

305. *Geranium pyrenaicum* Burm.f. subsp.
pyrenaicum

Ormanüstü village, roadside, 1350 m,
10.05.2005, Uzun 581 (KATO: 18055).

306. *Geranium gracile* Ledeb. ex Nordm.

Ormanüstü village, forest edge, 950 m,
08.07.2005, Uzun 684 (KATO: 18056);
Ormanüstü village, coniferous-broadleaf
mixed forests, 1172 m, 10.07.2008, Uzun
1379 (KATO: 18057); Ormanüstü village,
open forest, 1627 m, 15.07.2008, Uzun 1556
(KATO: 18058); Ormanüstü plateau,
afforestation site, 1664 m, 21.07.2008, Uzun
1690 (KATO: 18059). Hyr.-Eux. el.

307. *Geranium ibericum* Cav. subsp. *jubatum*
(Hand.-Mazz.) P.H.Davis

Ormanüstü plateau, shrubby place, 1850 m,
10.05.2005, Uzun 582 (KATO: 18060). Eux.
(mt.) el., **Endemic**, IUCN: LC

160. *Erodium* L'Hér. – İğnelik otu

308. *Erodium cicutarium* (L.) L Hér. subsp.
cutarium

Çeşmeler district, roadside, 700 m,
01.06.2008, Uzun 1068 (KATO: 18061);
Çeşmeler district, roadside, 900 m,
18.06.2008, Uzun 1103 (KATO: 18062).

Myrtales Juss. ex Bercht. & J.Presl
F58 [30]. Lythraceae J.St.-Hil.

161. *Lythrum* L.

309. *Lythrum salicaria* L. – Aklar ot
Ormanüstü village, damp creekside, 1200 m,
05.06.2006, Uzun 911 (KATO: 17965).
Euro-Sib. el.

162. *Punica* L.

310. *Punica granatum* L. – Nar
Köprüyanı, *Carpinus orientalis* thicket, 650
m, 11.07.2008, Uzun 1421 (KATO: 17968).
Medit. el.

F59 [31]. Onagraceae Juss.

163. *Circaea* L.

311. *Circaea lutetiana* L.
Ormanüstü village, damp places in forest,
1050 m, 05.08.2005, Uzun 781 (KATO:
17969).

312. *Circaea alpina* L.

Ormanüstü village, forest edge, 1245 m,
13.08.2005, Uzun 856 (KATO: 17970).

164. *Chamaenerion* Adans.

313. *Chamaenerion angustifolium* (L.) Scop.
(**syn.:** *Epilobium angustifolium* L.) – Yakı
otu
Ormanüstü village, damp hill, 1300 m,
08.07.2005, Uzun 676 (KATO: 17971).

165. *Epilobium* L.

314. *Epilobium hirsutum* L.
Ormanüstü village, damp creekside, 980 m,
05.06.2006, Uzun 912 (KATO: 17972).

315. *Epilobium parviflorum* Schreb.
Sukenarı district, roadside, 640 m,
07.07.2008, Uzun 1170 (KATO: 17973).

316. *Epilobium montanum* L.

Çamlıdüz plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1650 (KATO: 17974);
ibid., in forest, 1786 m, 20.07.2008, Uzun
1651 (KATO: 17975). Euro-Sib. el.

317 *Epilobium lanceolatum* Sebast. & Mauri
Ormanüstü village, roadside, 1750 m,
05.08.2005, Uzun 782 (KATO: 17976).

Crossosomatales Takht. ex Reveal
F60 [32]. Staphyleaceae Martinov

166. *Staphylea* L.

318. *Staphylea pinnata* L. – Patlak
Köprüyanı district, forest edge, 1200 m,
11.07.2007, Uzun 990 (KATO: 18022);
Çatak, in forest, 486 m, 14.07.2008, Uzun
1581 (KATO: 18023); Çeşmeler district, in
forest, 529 m, 14.07.2008, Uzun 1775
(KATO: 18024).

Sapindales Juss. ex Bercht. & J.Presl

F61 [33]. Anacardiaceae R.Br.

167. *Rhus* L. – Sumak

319. *Rhus coriaria* L. – Dericci sumacı
Çeşmeler district, shrubby place, 600 m,
01.06.2008, Uzun 1066 (KATO: 18037).

168. *Pistacia* L.

320. *Pistacia palaestina* Boiss. (**syn.:**
Pistacia terebinthus L. subsp. *palaestina*
(Boiss.) Engler) – Menengiç
Çeşmeler district, shrubby place, 415 m,
05.08.2005, Uzun 785 (KATO: 18039);
Karşıyaka village, roadside, 810 m,
13.07.2007, Uzun 1036 (KATO: 18038);
Çeşmeler district, shrubby place, 583 m,
07.07.2008, Uzun 1186 (KATO: 18040).
Medit. el.

**F62 [34]. Sapindaceae Juss., (including
Xanthocerataceae Buerki et al., as
'Xanthoceraceae')**

169. *Acer* Desf. – Akçağaç

321. *Acer heldreichii* Orph. subsp.
trautvetteri (Medw.) A.E.Murray (**syn.:** *Acer*
trautvetteri Medw.) – Kayın gövdeli
akçağaç
Ormanüstü village, in forest, 1680 m,
08.07.2005, Uzun 681 (KATO: 18025);
Köprüyanı district, in forest, 1000 m,
23.05.2006, Uzun 877 (KATO: 18026). Eux.
el.

322. *Acer cappadocicum* Gled. subsp.
cappadocicum – Doğu Karadeniz akçağacı
Ormanüstü village, leafy forest interior, 1250
m, 10.05.2005, Uzun 580 (KATO: 18027);
Köprüyanı, associated with *Quercus petraea*,
910 m, 23.05.2006, Uzun 878 (KATO:

18028); Sukenarı district, forest edge, 650 m, 11.07.2007, Uzun 991 (KATO: 18029); Ormanüstü village, in forest, 1133 m, 15.07.2008, Uzun 1555 (KATO: 18030). Hyr.-Eux. el.

323. *Acer platanoides* L. – Çınar yapraklı akçaağaç
Ormanüstü village, in forest, 1204 m, 24.07.2008, Uzun 1739 (KATO: 18031). Euro-Sib. el.

324. *Acer campestre* L. subsp. *campestre* – Ova akçaağacı
Ormanüstü village, in forest, 929 m, 08.07.2005, Uzun 682 (KATO: 18032); Köprüyanı district, forest edge, 1200 m, 11.07.2007, Uzun 992 (KATO: 18033); Kiremitli, in forest, 702 m, 23.07.2008, Uzun 1726 (KATO: 18034).

325. *Acer campestre* L. subsp. *leiocarpum* (Opiz) Schwer. – Ova akçaağacı
Sukenarı district, shrubby place, 663 m, 07.07.2008, Uzun 1185 (KATO: 18035); Çeşmeler district, stony hill, 942 m, 08.07.2008, Uzun 1301 (KATO: 18036). Euro-Sib. el.

F63 [35]. Rutaceae Juss.

170. *Dictamnus* L.

326. *Dictamnus albus* L. – Gazel otu, Geyik otu
Çeşmeler district, with *Carpinus orientalis*, 750 m, 01.06.2008, Uzun 1067 (KATO: 18042); *ibid.*, 890 m, 18.06.2008, Uzun 1102 (KATO: 18043); Sukenarı district, with *Carpinus orientalis*, 663 m, 07.07.2008, Uzun 1187 (KATO: 18044).

F64 [36]. Simaroubaceae DC.

171. *Ailanthus* Desf.

327. *Ailanthus altissima* (Mill.) Swingle – Cennet ağacı, Kokar ağaç
Karşıyaka village, roadside, 810 m, 13.07.2007, Uzun 1037 (KATO: 18041). Exotic

Malvales Juss. ex Bercht. & J.Presl

F65 [37]. Malvaceae Juss.

172. *Tilia* L. – İhlamur

328. *Tilia platyphyllos* Scop. subsp. *platyphyllos* – Büyük yapraklı ihlamur

Ormanüstü village, in forest, 1085 m, 10.07.2008, Uzun 1369 (KATO: 17664). Euro-Sib. el.

173. *Malva* L. – Ebegümeçi

329. *Malva sylvestris* L. – Büyük ebegümeçi
Çeşmeler district, open place, 440 m, 08.07.2005, Uzun 641 (KATO: 17665); Ormanüstü village, open place, 993 m, 05.08.2005, Uzun 771 (KATO: 17666).

330. *Malva neglecta* Wallr.

Köprüyanı, open place, 1200 m, 11.07.2007, Uzun 973 (KATO: 17667).

174. *Alcea* L.

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

Sındıran, stony landslides, hills, 800 m, 26.07.2008, Uzun 1749 (KATO: 17668).

332. *Alcea biennis* Winterl subsp. *biennis* (*syn.*: *Alcea pallida* (Willd.) & Kit.)
Çatak, roadside, 550 m, 26.07.2008, Uzun 1750 (KATO: 17669).

F66 [38]. Thymelaeaceae Juss.

175. *Daphne* L. – Dafne

333. *Daphne glomerata* Lam.

Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1774 (KATO: 17966). Eux. el.

334. *Daphne pontica* L. subsp. *pontica* – Sırmağu

Çeşmeler district, in forest, 1020 m, 08.07.2008, Uzun 1300 (KATO: 17967). Eux. el.

F67 [39]. Cistaceae Juss.

176. *Cistus* L. – Laden

335. *Cistus creticus* L. subsp. *creticus* – Pembe çiçekli laden

Köprüyanı district, roadside slope, 600 m, 23.05.2006, Uzun 866 (KATO: 17670);

Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1281 (KATO: 17671). Medit. el.

177. *Helianthemum* Adans.

336. *Helianthemum nummularium* (L.) Mill. subsp. *nummularium*

Ormanüstü plateau, open place, 2000 m, 05.06.2006, Uzun 897 (KATO: 17672);

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1131 (KATO: 17673);
Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1132 (KATO: 17674);
Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1764 (KATO: 17675).
337. *Helianthemum tomentosum* (Scop.) Gray subsp. *tomentosum* (**syn.:** *Helianthemum nummularium* (L.) Mill. subsp. *tomentosum* (Scop.) Schinz & Thell.) Ormanüstü village, forest edge, 929 m, 08.07.2005, Uzun 643 (KATO: 17676);
Çeşmeler district, stony hills, 750 m, 01.06.2008, Uzun 1054 (KATO: 17677).

178. *Fumana* Spach

338. *Fumana procumbens* (Dunal) Gren. & Godr.
Çeşmeler district, shrubby place, 750 m, 01.06.2008, Uzun 1055 (KATO: 17678);
Çeşmeler district, stony place, 880 m, 18.06.2008, Uzun 1094 (KATO: 17679);
Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1133 (KATO: 17680).

Brassicales Bromhead

F68 [40]. Resedaceae Martinov

179. *Reseda* L. – Sarı muhabbet çiçeği

339. *Reseda lutea* L. var. *lutea* – Gerdanlık
Çeşmeler district, stony place, 700 m, 01.06.2008, Uzun 1059 (KATO: 17720);
ibid., 490 m, 07.07.2008, Uzun 1138 (KATO: 17721).

F69 [41]. Brassicaceae Burnett (= Cruciferae Juss.)

180. *Sinapis* L.

340. *Sinapis alba* L. subsp. *alba*
Çeşmeler village, damp road-side, 490 m, 05.06.2006, Uzun 898 (KATO: 17694).

181. *Raphanus* L.

341. *Raphanus raphanistrum* L. subsp. *raphanistrum*
Çeşmeler district, stony hill, 750 m, 12.07.2007, Uzun 1024 (KATO: 17695).

182. *Lepidium* L.

342. *Lepidium campestre* (L.) W.T.Aiton
Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1134 (KATO: 17696).

183. *Aethionema* W.T.Aiton

***343.** *Aethionema diastrophis* Bunge
Çeşmeler district, stony hills, 437 m, 07.07.2008, Uzun 1135 (KATO: 17697).

184. *Microthlaspi* F.K.Mey.

344. *Microthlaspi perfoliatum* (L.) F.K.Mey. (**syn.:** *Thlaspi perfoliatum* L.)
Çeşmeler district, stony roadside, 750 m, 01.06.2008, Uzun 1056 (KATO: 17698).

185. *Pachyphragma* Rechb.

345. *Pachyphragma macrophyllum* (Hoffm.) N.Busch
Ormanüstü village, roadside, 1330 m, 10.05.2005, Uzun 569 (KATO: 17699). Eux. el.

186. *Capsella* Medik. – Çoban çantası

346. *Capsella bursa-pastoris* (L.) Medik. subsp. *bursa-pastoris* – Kuşkuş otu
Ormanüstü village, damp creekside, 1200 m, 05.06.2006, Uzun 899 (KATO: 17700).
Cosmopolitan

187. *Alyssoides* Adans

347. *Alyssoides utriculata* (L.) Medik. subsp. *utriculata*
Kiremitli, rock cavities, 760-900 m, 13.07.2007, Uzun 1032 (KATO: 17701).

188. *Fibigia* Medik.

348. *Fibigia clypeata* (L.) Medik. subsp. *clypeata* var. *clypeata*
Çeşmeler district, rocky roadside slope, 650 m, 11.07.2008, Uzun 1409 (KATO: 17702).

189. *Berteroa* DC.

349. *Berteroa mutabilis* (Vent.) DC.
Çatak, stony hill, 400 m, 11.07.2007, Uzun 975 (KATO: 17703); Kiremitli, stony hill, 760-900 m, 13.07.2007, Uzun 1033 (KATO: 17704).

190. *Alyssum* L.

350. *Alyssum alyssoides* (L.) L.
Çeşmeler district, roadside, 700 m, 01.06.2008, Uzun 1057 (KATO: 17705).
351. *Alyssum simplex* Rudolph (**syn.:** *Alyssum minus* (L.) Rothm. var. *minus*)
Çeşmeler district, roadside, 700 m, 01.06.2008, Uzun 1058 (KATO: 17706);
Çeşmeler district, stony hill, 634 m,

07.07.2008, Uzun 1136 (KATO: 17707);
Çeşmeler district, stony hill, 632 m,
11.07.2008, Uzun 1410 (KATO: 17708).

191. *Draba* L.

352. *Draba hispida* Willd.

Çeşmeler district, stony hill, 632 m,
11.07.2008, Uzun 1411 (KATO: 17709).
Eux. (mt.) el.

192. *Arabis* L.

***353. *Arabis sagittata* (Bertol.) DC.**

Çatak, afforestation site, 477 m, 14.07.2008,
Uzun 1458 (KATO: 17710).

193. *Turritis* L.

354. *Turritis glabra* L. (syn.: *Arabis glabra* L.)

Ormanüstü village, roadside, 490 m,
07.07.2008, Uzun 1137 (KATO: 17711).

194. *Nasturtium* W.T.Aiton

355. *Nasturtium officinale* W.T.Aiton – Su teresi

Sukenarı district, damp creekside, 632 m,
11.07.2008, Uzun 1412 (KATO: 17712).

195. *Cardamine* L.

356. *Cardamine bulbifera* (L.) Crantz

Ormanüstü village, in forest, 1647 m,
15.07.2008, Uzun 1545 (KATO: 17713).
Euro-Sib. el.

357. *Cardamine quinquefolia* (M.Bieb.) Benth. & Hook.f. ex Schmalh.

Ormanüstü village, in forest, 1642 m,
15.07.2008, Uzun 1546 (KATO: 17714).
Euro-Sib. el.

358. *Cardamine acris* Griseb. (syn.: *Cardamine raphanifolia* Pourr. subsp. *acris* (Griseb.) O.E.Schulz)

Ormanüstü village, damp hills, 1100 m,
10.05.2005, Uzun 570 (KATO: 17715).
Euro-Sib. el.

359. *Cardamine impatiens* L.

Ormanüstü village, damp hills, 1100 m,
10.05.2005, Uzun 571 (KATO: 17716).
Euro-Sib. el.

360. *Cardamine pectinata* DC. (syn.: *Cardamine impatiens* L. subsp. *pectinata* (DC.) Stoj. & Stef.)

Ormanüstü village, forest edge, 1370 m,
10.05.2005, Uzun 572 (KATO: 17717).
Euro-Sib. el.

196. *Alliaria* Scop.

361. *Alliaria petiolata* (M.Bieb.) Cavara & Grande – Sarımsak otu

Ormanüstü village, open forest edge, 1370 m,
10.05.2005, Uzun 573 (KATO: 17718).

197. *Sisymbrium* L.

362. *Sisymbrium officinale* (L.) Scop.

Köprüyanı, roadside, 870 m, 23.05.2006,
Uzun 867 (KATO: 17719).

SUPERASTERIDS

Santalales R.Br. ex Bercht. & J.Presl

F70 [42]. Santalaceae R.Br.

198. *Thesium* L.

***363. *Thesium billardieri* Boiss.**

Çeşmeler district, stony hills, 490 m,
07.07.2008, Uzun 1172 (KATO: 17979);
ibid., 583 m, 07.07.2008, Uzun 1173 (KATO:
17980). Ir.-Tur. el.

Caryophyllales Juss. ex Bercht. & J.Presl

F71 [43]. Polygonaceae Juss.

199. *Polygonum* L. – Çobandeğneği

364. *Polygonum aviculare* L.

Sukenarı district, damp place, 640 m,
07.07.2008, Uzun 1128 (KATO: 17647).
Cosmopolitan

200. *Bistorta* L. (Scop.)

365. *Bistorta carneum* (K.Koch) Kom. ex Tzvelev (syn.: *Polygonum bistorta* L. subsp. *carneum* (K.Koch) Coode & Cullen)

Ormanüstü plateau, wet meadows, 1815 m,
08.07.2005, Uzun 636 (KATO: 17643);
Ormanüstü plateau, grassy place, 2020 m,
05.08.2005, Uzun 769 (KATO: 17644); ibid.,
2000 m, 05.06.2006, Uzun 896 (KATO:
17645). Eux (mt.) el.

201. *Persicaria* Mill.

366. *Persicaria maculosa* Gray (syn.: *Polygonum persicaria* L.)

Sukenarı district, damp place, 640 m,
07.07.2008, Uzun 1127 (KATO: 17646).

202. *Rumex* L. – Kuzu kulağı

367. *Rumex arifolius* All.

Ormanüstü plateau, wet meadows, 1850 m,
10.05.2005, Uzun 567 (KATO: 17648).

368. *Rumex crispus* L.

Çeşmeler, damp place, 437 m, 07.07.2008, Uzun 1129 (KATO: 17649); Ormanüstü village, damp place, 1467 m, 12.07.2008, Uzun 1444 (KATO: 17650).

369. *Rumex pulcher* L. subsp. *pulcher*

Sukenarı district, damp creekside, 640 m, 07.07.2008, Uzun 1272 (KATO: 17651).

F72 [44]. Caryophyllaceae Juss.

203. *Arenaria* L.

370. *Arenaria kotschyana* Frenzl subsp. *kotschyana*

Ormanüstü plateau, in the cracks of rock clusters, 2000 m, 16.07.2008, Uzun 1575 (KATO: 17593). **Endemic**, IUCN: LC

371. *Arenaria rotundifolia* M.Bieb. subsp. *rotundifolia*

Ormanüstü plateau, rocky place, 2000 m, 05.06.2006, Uzun 894 (KATO: 17594).

372. *Arenaria serpyllifolia* L.

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1123 (KATO: 17595).

204. *Cherleria* L.

373. *Cherleria circassica* (Albov) A.J. Moore & Dillenb. (syn.**: *Minuartia circassica* (Albov) Woronow)**

Ormanüstü plateau, in cracks of rock clusters, 2000 m, 16.07.2008, Uzun 1576 (KATO: 17596).

Eux. (mt.) el.

205. *Moehringia* L.

374. *Moehringia trinervia* (L.) Clairv.

Ormanüstü village, in forest, 1948 m, 22.07.2008, Uzun 1708 (KATO: 17597); Vicinity of Vazelon monastery, in forest, 1069 m, 24.07.2008, Uzun 1735 (KATO: 17598).

206. *Stellaria* L. – Kuş otu

375. *Stellaria media* L. subsp. *media*

Çamlıdüz plateau, damp places in forest, 1879 m, 20.07.2008, Uzun 1638 (KATO: 17599).

376. *Stellaria nemorum* L. subsp. *nemorum
Çamlıdüz plateau, in forest, 1576 m, 17.07.2008, Uzun 1590 (KATO: 17600); ibid., 1589 m, 17.07.2008, Uzun 1591 (KATO: 17601); ibid., 1786 m, 20.07.2008, Uzun 1639 (KATO: 17602); ibid., 1769 m, 22.07.2008, Uzun 1709 (KATO: 17603).

207. *Rabelera* M.T.Sharple & E.A.Tripp

377. *Rabelera holostea* (L.) M.T.Sharple & E.A.Tripp (syn.**: *Stellaria holostea* L.)**

Vicinity of Vazelon monastery, forest edge, 1200 m, 24.07.2008, Uzun 1736 (KATO: 17604). Euro-Sib. el.

208. *Cerastium* L.

378. *Cerastium dubium* (Bastard) Guépin (syn.**: *Cerastium anomalum* Wadst. & Kit.)**

Ormanüstü village, open place, 1680 m, 08.07.2005, Uzun 758 (KATO: 17605).

379. *Cerastium armeniacum* Gren

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 895 (KATO: 17606).

Endemic, IUCN: LC

380. *Cerastium fontanum* Baumg. subsp. *vulgare* (Hartm.) Greuter & Burdet (syn.**: *Cerastium fontanum* Baumg. subsp. *triviale* (Link) Jalas)**

Ormanüstü plateau, grassy place, 1945 m, 08.07.2005, Uzun 630 (KATO: 17607).
Cosmopolitan

381. *Cerastium purpurascens* Adams

Ormanüstü plateau, grassy place, 1945 m, 08.07.2005, Uzun 631 (KATO: 17608); ibid., 1900 m, 05.08.2005, Uzun 765 (KATO: 17609).

209. *Moenchia* Ehrh.

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

Ormanüstü plateau, grassy place, 1815 m, 08.07.2005, Uzun 632 (KATO: 17610); Kiremitli, grassy place, 760-900 m, 13.07.2007, Uzun 1030 (KATO: 17611); Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1338 (KATO: 17613).

210. *Dianthus* L. – Karanfil

383. *Dianthus* sp.

Ormanüstü plateau, grassy place, 1900 m, 01.06.2008, Uzun 1053 (KATO: 17614).

Note: It was a sample that was highly affected by excessive grazing pressure. Therefore, we could not describe it.

384. *Dianthus carmelitarum* Reut. ex Boiss.

Çeşmeler district, grassy place, 444 m, 08.07.2005, Uzun 633 (KATO: 17615); Kiremitli district, roadside slope, 760-900 m, 13.07.2007, Uzun 1031 (KATO: 17616); Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1124 (KATO: 17619);

Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1277 (KATO: 17621); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1815 (KATO: 17624). Eux. el., **Endemic**, IUCN: LC

211. *Petrorhagia* (Ser.) Link.

385. *Petrorhagia saxifraga* (L.) Link
Çeşmeler district, stony hill, 1050 m, 11.07.2007, Uzun 972 (KATO: 17625); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1125 (KATO: 17626); ibid. 634 m, 07.07.2008, Uzun 1126 (KATO: 17627); ibid., 632 m, 11.07.2008, Uzun 1408 (KATO: 17628). Euro-Sib. el.

212. *Silene* L. – Salkım çiçeği

386. *Silene italica* (L.) Pers. subsp. *italica*
Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1640 (KATO: 17629).

387. *Silene saxatilis* Sims

Ormanüstü village, rocky place, 1577 m, 08.07.2005, Uzun 634 (KATO: 17630); Ormanüstü plateau, degraded oriental spruce forest, 1991 m, 02.08.2008, Uzun 1762 (KATO: 17631); Ormanüstü village, rocky hill, 1750 m, 05.08.2005, Uzun 766 (KATO: 17632).

388. *Silene vulgaris* (Moench) Garcke subsp. *vulgaris* – Gıvışkan otu

Ormanüstü village, roadside slope, open place, 929 m, 08.07.2005, Uzun 635 (KATO: 17633); Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1339 (KATO: 17634); Ormanüstü village, open place, 1740 m, 16.07.2008, Uzun 1577 (KATO: 17635); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1641 (KATO: 17636).

389. *Silene latifolia* Poir. (syn.: *Silene latifolia* Poir. subsp. *alba* (Mill.) Greuter & Burdet, *Silene alba* (Mill.) Krause subsp. *divaricata* (Reichb.) Walters) – Gıcı gıcı otu
Ormanüstü village, shrubby place, 1500 m, 05.08.2005, Uzun 768 (KATO: 17640); Köprüyanı district, open forest, 975 m, 08.07.2008, Uzun 1278 (KATO: 17641).

390. *Silene gallica* L.

Köprüyanı district, open forest, 975 m, 08.07.2008, Uzun 1279 (KATO: 17642).
Cosmopolitan

213. *Atocion* Adans.

391. *Atocion compactum* (Fisch. ex Hornem.) Tzvelev (syn.: *Silene compacta* Fischer ex Hornem.)

Ormanüstü village, forest edge open place, 1200 m, 10.05.2005, Uzun 566 (KATO: 17637); Ormanüstü village, open place, 1620 m, 05.08.2005, Uzun 767 (KATO: 17639). ibid., 1615 m, 26.07.2006, Uzun 934 (KATO: 17638).

F73 [45]. Cactaceae Juss.

214. *Opuntia* Mill.

***392. *Opuntia ficus-indica* (L.) Mill. – Frenk inciri**

Çeşmeler district, stony-open place, 490 m, 07.07.2008, Uzun 1122 (KATO: 17592).
Exotic

ASTERIDS

Cornales Link

F74 [46]. Cornaceae Bercht. & J.Presl

215. *Cornus* L. – Kızılcık

393. *Cornus sanguinea* L. subsp. *australis* (C.A.Mey.) Jáv.

Ormanüstü village, forest edge, 950 m, 08.07.2005, Uzun 677 (KATO: 17977).
Euro-Sib. el.

394. *Cornus mas* L.

Çeşmeler district, shrubby place, 634 m, 07.07.2008, Uzun 1171 (KATO: 17978).
Euro-Sib. el.

Ericales Bercht. & J.Presl

F75 [47]. Balsaminaceae A.Rich.

216. *Impatiens* L.

395. *Impatiens noli-tangere* L. – Kına çiçeği
Ormanüstü village, in forest, 1500 m, 10.05.2005, Uzun 583 (KATO: 18063); ibid., 1091 m, 05.08.2005, Uzun 786 (KATO: 18064); Ormanüstü village, damp places in forest, 1350 m, 26.07.2006, Uzun 946 (KATO: 18065). Euro-Sib. el.

F76 [48]. Primulaceae Batsch ex Borkh.

217. *Primula* L. – Çuha çiçeği

396. *Primula acaulis* (L.) L. subsp. *acaulis* (syn.: *Primula vulgaris* Huds. subsp. *vulgaris*)

Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1139 (KATO: 17740). Euro-Sib. el.

397. *Primula acaulis* (L.) L. subsp. *rubra* (Sm.) Greuter & Burdet (syn.: *Primula vulgaris* Huds. subsp. *sibthorpii* (Hoffmanns.) W.W.Sm. & Forrest)

Çeşmeler district, open place, 500 m, 07.07.2008, Uzun 1140 (KATO: 17741). Eux. el.

398. *Primula veris* L. subsp. *columnae* (Ten.) Maire & Petitm.

Ormanüstü plateau, grassy hill, 1800 m, 05.06.2006, Uzun 900 (KATO: 17742). Euro-Sib. el.

399. *Primula auriculata* Lam.

Ormanüstü Y., damp creekside, 2000 m, 05.06.2006, Uzun 901 (KATO: 17743). Ir.-Tur. el.

218. *Cyclamen* L. – Domuzağırşağı

400. *Cyclamen coum* Mill. subsp. *coum*

Çeşmeler district, stony place, 490 m, 10.04.2005, Uzun 553 (KATO: 17744).

401. *Cyclamen coum* Mill. subsp. *caucasicum* (K. Koch) O. Schwarz

Sukenarı district, stony place, 670 m, 10.04.2005, Uzun 554 (KATO: 17745).

402. *Cyclamen parviflorum* Pobed. subsp. *parviflorum*

Ormanüstü plateau, stony place, 1800 m, 10.04.2005, Uzun 555 (KATO: 17746). Eux. (mt.) el., **Endemic**, IUCN: LC

403. *Cyclamen parviflorum* Pobed. subsp. *subalpinum* (Grey-Wilson) Grey-Wilson

Ormanüstü village, in forest, 1437 m, 12.07.2008, Uzun 1445 (KATO: 17747); ibid., 1479 m, 12.07.2008, Uzun 1446 (KATO: 17748); ibid., 1707 m, 16.07.2008, Uzun 1578 (KATO: 17749); Ormanüstü plateau, in forest, 1615 m, 17.07.2008, Uzun 1596 (KATO: 17750). Eux. el., **Endemic**, IUCN: LC

219. *Lysimachia* L.

404. *Lysimachia verticillaris* Spreng. – Karga otu

Ormanüstü village, grassy place, 950 m, 26.07.2006, Uzun 942 (KATO: 17751); Ormanüstü village, grassy place, 1445 m, 17.07.2008, Uzun 1597 (KATO: 17752). Hyr.-Eux. el.

405. *Lysimachia arvensis* (L.) U.Manns & Anderb. subsp. *arvensis* (syn.: *Anagallis arvensis* L.)

Köprüyanı district, damp place, 740 m, 05.06.2006, Uzun 902 (KATO: 17753).

406. *Lysimachia foemina* (Mill.) U.Manns & Anderb. (syn.: *Anagallis foemina* Mill.)

Çeşmeler district, stony roadside, 437 m, 07.07.2008, Uzun 1141 (KATO: 17754); Sukenarı district, damp creekside, 640 m, 07.07.2008, Uzun 1142 (KATO: 17755). Medit. el.

F77 [49]. Ericaceae Juss.

220. *Rhododendron* L. – Orman gülü

407. *Rhododendron luteum* Sweet – Sarı çiçekli orman gülü, Zifin

Ormanüstü village, forest edge, 800 m, 10.05.2005, Uzun 574 (KATO: 17722); Köprüyanı, shrubby place in association with *Rhododendron ponticum*, 930 m, 23.05.2006, Uzun 868 (KATO: 17723). Eux. el.

408. *Rhododendron ponticum* L. subsp. *ponticum* – Mor çiçekli orman gülü, Komar Köprüyanı, in forest, 710 m, 23.05.2006, Uzun 869 (KATO: 17724). Eux. el.

221. *Vaccinium* L. – Ayı üzümü

409. *Vaccinium myrtillus* L. – Çoban üzümü
Ormanüstü village, in forest, 1622 m, 15.07.2008, Uzun 1547 (KATO: 17725); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1765 (KATO: 17726). Euro-Sib. el.

410. *Vaccinium arctostaphylos* L. – Trabzon çayı, Likarba, Lifor

Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1282 (KATO: 17727). Eux. el.

222. *Orthilia* Rafin.

411. *Orthilia secunda* (L.) House

Ormanüstü village, pure stand of oriental spruce, 1615 m, 26.07.2006, Uzun 941 (KATO: 17728); ibid., 1614 m, 10.07.2008, Uzun 1370 (KATO: 17729); Ormanüstü village, in forest, 1622 m, 15.07.2008, Uzun 1548 (KATO: 17730); Ormanüstü plateau, in forest, 1668 m, 17.07.2008, Uzun 1593 (KATO: 17731); Çamlıdüz plateau, in forest, 1668 m, 17.07.2008, Uzun 1594 (KATO: 17732); Ormanüstü village, in forest, 1710 m,

21.07.2008, Uzun 1683 (KATO: 17733);
ibid., 1752 m, 21.07.2008, Uzun 1684
(KATO: 17734); Ormanüstü plateau, upper
forest border, 2000 m, 22.07.2008, Uzun
1710 (KATO: 17735).

223. *Pyrola* L.

412. *Pyrola media* Sw.

Ormanüstü village, in forest, 950 m,
08.07.2005, Uzun 644 (KATO: 17736);
Ormanüstü village, in forest, 1622 m,
15.07.2008, Uzun 1549 (KATO: 17737);
Ormanüstü plateau, in forest, 1668 m,
17.07.2008, Uzun 1595 (KATO: 17738).
Euro-Sib. el.

224. *Monotropa* L.

413. *Monotropa hypopitys* L.

Köprüyanı district, in forest, 1001 m,
08.07.2008, Uzun 1283 (KATO: 17739).
Parasite

Gentianales Juss. ex Bercht. & J.Presl

F78 [50]. Rubiaceae Juss.

225. *Crucianella* L.

414. *Crucianella gilanica* Trin. subsp. *pontica* (Ehrend.) Ehrend.

Sukenarı district, roadside slope, 685 m,
11.07.2007, Uzun 1006 (KATO: 18349);
Çeşmeler district, rocky place, 910 m,
18.06.2008, Uzun 1111 (KATO: 18350);
Çeşmeler district, stony hill, 490 m,
07.07.2008, Uzun 1229 (KATO: 18351);
ibid., 634 m, 07.07.2008, Uzun 1230 (KATO:
18352); ibid., 942 m, 08.07.2008, Uzun 1310
(KATO: 18353); Çatak, afforestation site,
873 m, 06.08.2008, Uzun 1833 (KATO:
18354). Eux. el.

226. *Asperula* L.

415. *Asperula taurina* L. (syn.: *Asperula* *taurina* L. subsp. *caucasica* (Pobed.) Ehrend.)

Köprüyanı district, vicinity of Vazelon
monastery, open forest, 1130 m, 23.05.2006,
Uzun 886 (KATO: 18355). Hyr.-Eux. el.

416. *Asperula involucrata* Wahlenb.

Ormanüstü village, in forest, 1770 m,
08.07.2005, Uzun 719 (KATO: 18356);
Köprüyanı district, in forest, 701 m,
08.07.2008, Uzun 1311 (KATO: 18357);
Köprüyanı district, rocky place, 860 m,

08.07.2008, Uzun 1312 (KATO: 18358);
ibid., 1017 m, 08.07.2008, Uzun 1313
(KATO: 18359); Köprüyanı district, open
forest, 975 m, 08.07.2008, Uzun 1314
(KATO: 18360); Çatak, open forest, 458 m,
14.07.2008, Uzun 1498 (KATO: 18361);
Ormanüstü plateau, in forest, 1615 m,
17.07.2008, Uzun 1611 (KATO: 18362).
Eux. el.

227. *Galium* L. – Yoğurt otu

417. *Galium rotundifolium* L.

Ormanüstü village, in forest, 1615 m,
26.07.2006, Uzun 956 (KATO: 18363);
Köprüyanı district, in forest, 1001 m,
08.07.2008, Uzun 1315 (KATO: 18364);
Çeşmeler district, in forest, 1020 m,
08.07.2008, Uzun 1316 (KATO: 18365).
Euro-Sib. el.

418. *Galium odoratum* (L.) Scop.

Ormanüstü village, in forest, 1680 m,
08.07.2005, Uzun 720 (KATO: 18366).
Euro-Sib. el.

419. *Galium verum* L. subsp. *verum*

Çeşmeler district, stony-grassy place, 780 m,
11.07.2007, Uzun 1007 (KATO: 18367);
Çeşmeler district, stony hill, 634 m,
07.07.2008, Uzun 1231 (KATO: 18368);
Çeşmeler district, stony-grassy place, 890 m,
18.06.2008, Uzun 1112 (KATO: 18369).
Euro-Sib. el.

420. *Galium fissurense* Ehrend & Schönb.- Tem.

Çeşmeler district, stony hill, 1050 m,
11.07.2007, Uzun 1008 (KATO: 18370);
Sukenarı district, stony hill, 663 m,
07.07.2008, Uzun 1232 (KATO: 18372);
Köprüyanı district, rocky place, 860 m,
08.07.2008, Uzun 1317 (KATO: 18374);
Ormanüstü village, afforestation site, 1683
m, 10.07.2008, Uzun 1385 (KATO: 18376);
Çatak, open forest, 458 m, 14.07.2008, Uzun
1499 (KATO: 18377); Ormanüstü plateau,
stony degraded spruce forest, 2010 m,
02.08.2008, Uzun 1789 (KATO: 18378).
Eux. el., **Endemic**, IUCN: LC

421. *Galium aparine* L.

Çeşmeler district, shrubby place, 444 m,
08.07.2005, Uzun 721 (KATO: 18379);
Sukenarı district, stony hill, 663 m,
07.07.2008, Uzun 1233 (KATO: 18380).
Cosmopolitan

228. *Cruciata* Mill. – Haç otu

422. *Cruciata laevipes* Opiz.

Çeşmeler district, grassy places, 880 m, 18.06.2008, Uzun 1113 (KATO: 18381). Euro-Sib. el.

423. *Cruciata taurica* (Pall. ex Willd.) Ehrend.

Ormanüstü village, grassy place, 1680 m, 08.07.2005, Uzun 722 (KATO: 18382); Ormanüstü plateau, grassy place, 2020 m, 05.08.2005, Uzun 817 (KATO: 18383); Kiremitli district, grassy place, 717 m, 13.07.2007, Uzun 1042 (KATO: 18384). Ir-Tur. el.

F79 [51]. *Gentianaceae* Juss.

229. *Blackstonia* Hudson

424. *Blackstonia perfoliata* (L.) Huds. subsp. *perfoliata*

Ormanüstü village, open forest edge, 1250 m, 05.08.2005, Uzun 787 (KATO: 18109); Çeşmeler district, roadside, 650 m, 26.07.2006, Uzun 1776 (KATO: 18110); Ormanüstü village, grassy place, 980 m, 26.07.2006, Uzun 1830 (KATO: 18111); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 585 (KATO: 18112).

230. *Centaureum* Hill – Kırmızı kantaron

425. *Centaureum erythraea* Rafn subsp. *erythraea*

Ormanüstü village, grassy place, 980 m, 26.07.2006, Uzun 950 (KATO: 18113). Euro-Sib. el.

231. *Gentiana* L. – Centiyan

426. *Gentiana asclepiadea* L.

Ormanüstü village, in forest, 1530 m, 05.08.2005, Uzun 788 (KATO: 18114). Euro-Sib. el.

427. *Gentiana cruciata* L. subsp. *cruciata*

Çeşmeler district, grassy place, 1600 m, 02.08.2008, Uzun 1776 (KATO: 18115); Çatak, grassy place, 873 m, 06.08.2008, Uzun 1830 (KATO: 18116). Euro-Sib. el.

428. *Gentiana aquatica* L.

Ormanüstü plateau, wet meadow, 1800 m, 10.05.2005, Uzun 585 (KATO: 18117).

429. *Gentiana pyrenaica* L.

Ormanüstü plateau, grassy place, 2000 m, 10.05.2005, Uzun 586 (KATO: 18118). Euro-Sib. el.

430. *Gentiana verna* L. subsp. *pontica* (Soltok.) Litard. & Maire

Ormanüstü plateau, grassy place, 2000 m, 10.05.2005, Uzun 587 (KATO: 18119); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1777 (KATO: 18120). Hyr.-Eux. (mt.) el.

Boraginales Juss. ex Bercht. & J.Presl

F80 [52]. *Boraginaceae* Juss.

232. *Lappula* Fabr.

431. *Lappula barbata* (M.Bieb.) Gürke
Sukenarı district, open place, 498 m, 11.07.2008, Uzun 1427 (KATO: 18135). Ir-Tur. el.

233. *Myosotis* L. – Unutmabeni çiçeği

432. *Myosotis arvensis* (L.) Hill subsp. *arvensis*

Ormanüstü village, forest edge, 1745 m, 21.07.2008, Uzun 1691 (KATO: 18136); Çamlıdüz plateau, damp places in forest, 1879 m, 20.07.2008, Uzun 1663 (KATO: 18137). Euro-Sib. el.

433. *Myosotis lazica* Popov

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 919 (KATO: 18138); Ormanüstü village, forest edge wet hills, 1200 m, 10.05.2005, Uzun 588 (KATO: 18139). Eux. el., **Rare**, IUCN: VU

434. *Myosotis sylvatica* Hoffm. subsp. *rivularis* Vestergr.

Ormanüstü village, damp hill, 1550 m, 10.05.2005, Uzun 589 (KATO: 18140); Ormanüstü village, roadside, 1380 m, 10.05.2005, Uzun 590 (KATO: 18141). Hyr.-Eux. (mt.) el.

435. *Myosotis alpestris* F.W.Schmidt subsp. *alpestris*

Ormanüstü plateau, rocky and grassy places, 2000 m, 08.07.2005, Uzun 690 (KATO: 18142).

436. *Myosotis olympica* Boiss.

Ormanüstü plateau, damp meadows, 1945 m, 08.07.2005, Uzun 691 (KATO: 18143); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1664 (KATO: 18144). Eux. (mt.) el.

437. *Myosotis lithospermifolia* (Willd.) Hornem

Ormanüstü plateau, damp meadows, 1945 m, 08.07.2005, Uzun 692 (KATO: 18145).

438. *Myosotis sparsiflora* Pohl

Çeşmeler district, damp hills, 600 m, 10.05.2005, Uzun 591 (KATO: 18146). Euro-Sib. el.

234. *Cynoglossum* L. – Kedi pençesi

439. *Cynoglossum officinale* L. subsp. *officinale*

Köprüyanı, roadside, 700 m, 23.05.2006, Uzun 881 (KATO: 18147). Euro-Sib. el.

440. *Cynoglossum creticum* Mill.

Köprüyanı district, open place, 900 m, 23.05.2006, Uzun 882 (KATO: 18148); Çeşmeler district, roadside, 750 m, 11.07.2007, Uzun 996 (KATO: 18149).

235. *Lithospermum* L.

441. *Lithospermum officinale* L.

Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1072 (KATO: 18150); Çeşmeler district, roadside, 890 m, 18.06.2008, Uzun 1105 (KATO: 18151). Euro-Sib. el.

236. *Echium* L. – Engerek otu

442. *Echium italicum* L. subsp. *italicum*

Çeşmeler district, roadside, 415 m, 05.08.2005, Uzun 790 (KATO: 18152); Çeşmeler district, roadside, 1050 m, 11.07.2007, Uzun 997 (KATO: 18153); Kiremitli district, roadside slopes, 760-900 m, 13.07.2007, Uzun 1039 (KATO: 18154). Medit. el.

443. *Echium vulgare* L. subsp. *vulgare*

Ormanüstü village, roadside, 1000 m, 10.05.2005, Uzun 592 (KATO: 18155). Euro-Sib. el.

237. *Onosma* L. – Emzik otu

444. *Onosma bourgaei* Boiss.

Çeşmeler district, meadow ve stony place, 700 m, 01.06.2008, Uzun 1073 (KATO: 18156). Ir.-Tur. el.

***445. *Onosma bornmuelleri* Hausskn.**

Çeşmeler district, stony hill, 700 m, 01.06.2008, Uzun 1074 (KATO: 18157); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1198 (KATO: 18158); Yukarıköy village, open place, 931 m,

14.07.2008, Uzun 1487 (KATO: 18159). Ir.-Tur. el., **Endemic**, IUCN: LC

238. *Cerinth* L.

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

Yukarıköy village, open place, 950 m, 14.07.2008, Uzun 1488 (KATO: 18160).

239. *Symphytum* L. – Karakafes otu

447. *Symphytum sylvaticum* Boiss. subsp. *sepulcrale* (Boiss. & Balansa) Greuter & Burdet

Ormanüstü village, forest edge, 1000 m, 10.05.2005, Uzun 593 (KATO: 18161); Ormanüstü village, forest edge, 1245 m, 13.08.2005, Uzun 857 (KATO: 18162). Eux. el., **Endemic**, IUCN: NT

240. *Trachystemon* D.Don. – Galdirik, Hodan

448. *Trachystemon orientalis* (L.) G.Don – Tomara

Ormanüstü village, damp creekside, 1245 m, 05.06.2006, Uzun 920 (KATO: 18163). Eux. el.

Solanales Juss. ex Bercht. & J.Presl

F81 [53]. *Convolvulaceae* Juss.

241. *Convolvulus* L.

449. *Convolvulus cantabrica* L.

Çeşmeler district, grassy place, 1050 m, 11.07.2007, Uzun 995 (KATO: 18129); ibid., 700 m, 01.06.2008, Uzun 1071 (KATO: 18130); Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1197 (KATO: 18131). Medit. el.

450. *Convolvulus arvensis* L. – Tarla sarmaşığı

Çeşmeler district, roadside, 670 m, 05.06.2006, Uzun 918 (KATO: 18132). Cosmopolitan

242. *Calystegia* R.Br.

451. *Calystegia silvatica* (Kit.) Griseb. – Çit sarmaşığı

Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1486 (KATO: 18133).

243. *Cuscuta* L.

***452. *Cuscuta europaea* L. – Bostanbozan**

Vicinity of Vazelon monastery, as climber on *Sambucus ebulus*, 1200 m, 24.07.2008, Uzun 1741 (KATO: 18134).

F82 [54]. Solanaceae Juss.

244. *Solanum* L. – İt üzümü

453. *Solanum nigrum* L. – Siyah meyveli it üzümü

Çeşmeler district, roadside, 650 m, 07.07.2008, Uzun 1195 (KATO: 18121).
Cosmopolitan

454. *Solanum dulcamara* L.

Ormanüstü village, wet streamside, 900 m, 07.07.2008, Uzun 1196 (KATO: 18122).
Euro-Sib. el.

245. *Alkekengi* Mill.

455. *Alkekengi officinarum* Moench var. *officinarum* (**bas.:** *Physalis alkekengi* L. var. *alkekengi*) – Güvey feneri

Köprüyanı district, roadside slope, 600 m, 23.05.2006, Uzun 880 (KATO: 18123);
Ormanüstü village, shrubby place, 1091 m, 05.08.2005, Uzun 789 (KATO: 18124).

246. *Atropa* L.

456. *Atropa bella-donna* L. – Güzel avrat otu
Ormanüstü village, forest edge, 1577 m, 08.07.2005, Uzun 688 (KATO: 18125);
Ormanüstü village, roadside, 1450 m, 08.07.2005, Uzun 689 (KATO: 18126).
Euro-Sib. el.

247. *Datura* L.

457. *Datura stramonium* L. – Boru çiçeği
Ormanüstü village, roadside, 780 m, 05.06.2006, Uzun 917 (KATO: 18127).
Cosmopolitan

248. *Hyoscyamus* L.

458. *Hyoscyamus niger* L. – Ban otu
Sukenarı district, roadside slope, 700 m, 01.06.2008, Uzun 1070 (KATO: 18128).

Lamiales Bromhead

F83 [55]. Oleaceae Hoffmanns. & Link

249. *Fraxinus* L. – Dışbudak

459. *Fraxinus angustifolia* Vahl. subsp. *oxycarpa* (M.Bieb. ex Willd.) Franco & Rocha Afonso – Sivri meyveli dışbudak

Çatak, roadside, 650 m, 14.07.2008, Uzun 1493 (KATO: 18248). Euro-Sib. el.

250. *Ligustrum* L. – Kurtbağrı

460. *Ligustrum vulgare* L.

Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1831 (KATO: 18249). Euro-Sib. el.

251. *Osmanthus* Lour.

461. *Osmanthus decorus* (Boiss. & Balansa) Kasapligil

Köprüyanı district, in forest, 977 m, 11.07.2008, Uzun 1429 (KATO: 18250);
Ormanüstü village, in forest, 1205 m, 24.07.2008, Uzun 1744 (KATO: 18251).
Eux. el., **Rare**, IUCN: VU

252. *Phillyrea* L.

462. *Phillyrea latifolia* L. – Akçakesme

Çeşmeler, shrubby place, 437 m, 07.07.2008, Uzun 1223 (KATO: 18252); Çatak, open forest, 458 m, 14.07.2008, Uzun 1494 (KATO: 18253).
Medit. el.

F84 [56]. Plantaginaceae Juss.

253. *Plantago* L. – Sınır otu

463. *Plantago major* L. subsp. *major*
Köprüyanı, open place, 1200 m, 11.07.2007, Uzun 1003 (KATO: 18246).

464. *Plantago lanceolata* L.

Ormanüstü village, roadside slope, 1100 m, 05.08.2005, Uzun 803 (KATO: 18247).

254. *Linaria* Mill.

465. *Linaria genistifolia* (L.) Mill. subsp. *genistifolia*

Sındıran village, stony and slopy hill, 800 m, 26.07.2008, Uzun 1751 (KATO: 18266).
Euro-Sib. el.

255. *Digitalis* L. – Yüksük otu

466. *Digitalis ferruginea* L. subsp. *schischkinii* (Ivanina) K. Werner – Arı kovanı
Ormanüstü plateau, open forest, 1700 m, 10.05.2005, Uzun 597 (KATO: 18267); *ibid.*, 1800 m, 27.07.2008, Uzun 1753 (KATO: 18268).
Eux. el.

256. *Veronica* L. – Yavşan otu

467. *Veronica gentianoides* Vahl subsp. *gentianoides*

Ormanüstü plateau, grassy place, 2000 m, 08.07.2005, Uzun 702 (KATO: 18269); *ibid.*, 2000 m, 05.06.2006, Uzun 924 (KATO: 18270). Hyr.-Eux. (mt.) el.

468. *Veronica persica* Poiret

Ormanüstü village, open place, 1680 m, 08.07.2005, Uzun 703 (KATO: 18271).

469. *Veronica anagallis-aquatica* L. subsp. *anagallis-aquatica*

Ormanüstü village, damp place, 1680 m, 08.07.2005, Uzun 704 (KATO: 18272).
Cosmopolitan

470. *Veronica beccabunga* L. subsp. *beccabunga*

Ormanüstü village, streamside, 1680 m, 08.07.2005, Uzun 705 (KATO: 18273).

471. *Veronica chamaedrys* L. subsp. *chamaedrys*

Çamlıdüz plateau, in forest, 1589 m, 17.07.2008, Uzun 1610 (KATO: 18274);
Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1692 (KATO: 18275).
Euro-Sib. el.

472. *Veronica multifida* L.

Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1077 (KATO: 18276);
Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1224 (KATO: 18277). Ir.-Tur. el., **Endemic**, IUCN: LC

473. *Veronica peduncularis* M.Bieb.

Ormanüstü village, damp hill, 1100 m, 10.05.2005, Uzun 598 (KATO: 18278);
Ormanüstü village, open place, 1680 m, 08.07.2005, Uzun 706 (KATO: 18279);
Köprüyanı, roadside slope, 1000 m, 23.05.2006, Uzun 885 (KATO: 18280);
Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1782 (KATO: 18281).
Eux. el.

474. *Veronica officinalis* L.

Ormanüstü village, in forest, 1280 m, 09.07.2008, Uzun 1348 (KATO: 18282);
ibid., 1710 m, 21.07.2008, Uzun 1693 (KATO: 18283). Euro-Sib. el.

257. *Globularia* L.

475. *Globularia trichosantha* Fisc. & C.A.Mey. subsp. *trichosantha*
Çeşmeler district, grassy place, 700 m, 01.06.2008, Uzun 1078 (KATO: 18302).

F85 [57]. Scrophulariaceae Juss.

258. *Scrophularia* L. – *Sıraca otu*

476. *Scrophularia scopolii* Hoppe ex Pers. var. *adenocalyx* Sommier & Levier
Ormanüstü village, in forest, 1140 m, 10.07.2008, Uzun 1381 (KATO: 18264);
Çamlıdüz plateau, in forest, 1786 m, 20.07.2008, Uzun 1669 (KATO: 18265).
Eux. el.

259. *Verbascum* L. – *Sığır kuyruğu*

477. *Verbascum spectabile* M.Bieb. var. *spectabile*

Ormanüstü plateau, open place, 1750 m, 08.07.2005, Uzun 701 (KATO: 18254);
Yukarıköy village, afforestation site, 836 m, 18.07.2008, Uzun 1629 (KATO: 18255);
Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1667 (KATO: 18256);
Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1781 (KATO: 18257).
Eux. el.

478. *Verbascum pyramidatum* M.Bieb.

Çeşmeler district, stony hill, 890 m, 18.06.2008, Uzun 1109 (KATO: 18258);
Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1380 (KATO: 18259);
Yukarıköy village, open place, 931 m, 14.07.2008, Uzun 1495 (KATO: 18260);
Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1668 (KATO: 18261).
Hyr.-Eux. el.

479. *Verbascum thapsus* L. subsp. *thapsus*

Köprüyanı district, pathside in open place, 1862 m, 24.07.2008, Uzun 1745 (KATO: 18262).Euro-Sib. el.

480. *Verbascum gnaphalodes* M.Bieb.

Çeşmeler district, stony-grassy place, 890 m, 18.06.2008, Uzun 1110 (KATO: 18263).
Eux. el.

F86 [58]. Verbenaceae J.St.Hil.

260. *Verbena* L.

481. *Verbena officinalis* L.

Sukenarı district, roadside, 640 m, 07.07.2008, Uzun 1199 (KATO: 18164);
Çeşmeler district, roadside, 650 m, 07.07.2008, Uzun 1200 (KATO: 18165).
Cosmopolitan

F87 [59]. Lamiaceae Martinov (= Labiatae Juss.)

261. Ajuga L. – Mayasıl otu

482. Ajuga orientalis L.

Ormanüstü plateau, grassy place, 1800 m, 10.05.2005, Uzun 594 (KATO: 18166); *ibid.*, 2000 m, 05.06.2006, Uzun 921 (KATO: 18167).

483. Ajuga reptans L.

Ormanüstü plateau, damp creekside, 1800 m, 05.06.2006, Uzun 922 (KATO: 18168).

Euro-Sib. el.

484. Ajuga chamaepitys (L.) Schreb. subsp. chia (Schreb.) Arcang.

Yukarıköy village, stony hill, 800 m, 14.07.2008, Uzun 1489 (KATO: 18169).

262. Teucrium L.

485. Teucrium chamaedrys L. subsp. trapezunticum Rech.f. – Dalak otu

Çeşmeler district, stony hill, 595 m, 08.07.2005, Uzun 693 (KATO: 18170); Karşıyaka village, open hill, 900 m, 13.07.2007, Uzun 1040 (KATO: 18171); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1201 (KATO: 18172); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1202 (KATO: 18173); Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1203 (KATO: 18174); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1490 (KATO: 18175). Eux. el.

486. Teucrium polium L. subsp. polium

Çeşmeler district, stony-grassy place, 890 m, 18.06.2008, Uzun 1106 (KATO: 18176); Köprüyanı, stony place, 900 m, 11.07.2007, Uzun 998 (KATO: 18177); Kiremitli district, grassy place, 717 m, 13.07.2007, Uzun 1041 (KATO: 18178); Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1204 (KATO: 18179); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1205 (KATO: 18180); Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1206 (KATO: 18181).

263. Phlomis L. – Şalba

487. Phlomis russeliana (Sims) Lag. ex Benth.

Çeşmeler district, forest edge, 717 m, 27.07.2008, Uzun 1725 (KATO: 18182). Eux. (mt.) el., **Endemic**, IUCN: LC

264. Lamium L. – Ballibaba

488. Lamium galeobdolon (L.) L. subsp. galeobdolon (syn.: Galeobdolon luteum Hudson subsp. luteum)

Vicinity of Vazelon monastery, in forest, 1069 m, 24.07.2008, Uzun 1743 (KATO: 18187). Euro-Sib. el.

489. Lamium maculatum L.

Ormanüstü village, open forest, 1350 m, 10.05.2005, Uzun 595 (KATO: 18183); Köprüyanı district, forest edge, 1130 m, 23.05.2006, Uzun 883 (KATO: 18184); Vicinity of Vazelon monastery, open forest, 1205 m, 24.07.2008, Uzun 1742 (KATO: 18185). Euro-Sib. el.

490. Lamium moschatum Mill. subsp. micranthum (Boiss.) Mennema (syn.: Lamium ponticum Boiss. & Balansa ex Boiss.)

Köprüyanı district, rocky roadside slope, 700 m, 23.05.2006, Uzun 884 (KATO: 18186). Ir.-Tur. el.

265. Stachys L. – Karabaş otu

491. Stachys byzantina K.Koch

Çeşmeler district, stony hill, 1050 m, 11.07.2007, Uzun 999 (KATO: 18188); Çeşmeler district, stony place, 700 m, 01.06.2008, Uzun 1075 (KATO: 18189). Euro-Sib. el.

492. Stachys sylvatica L.

Ormanüstü village, damp places in forest, 1100 m, 08.07.2005, Uzun 694 (KATO: 18190). Euro-Sib. el.

493. Stachys iberica M.Bieb. subsp. iberica var. iberica

Çeşmeler district, shrubby place, 750 m, 01.06.2008, Uzun 1076 (KATO: 18191); Çeşmeler district, stony place, 880 m, 18.06.2008, Uzun 1107 (KATO: 18192); Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1207 (KATO: 18193); Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1208 (KATO: 18194). Ir.-Tur. el.

494. Stachys annua (L.) L. subsp. annua (syn.: Stachys annua (L.) L. var. lycanica R.Bhattacharjee)

Ormanüstü village, roadside slope, 1100 m, 05.08.2005, Uzun 791 (KATO: 18195); Çeşmeler, stony hill, 437 m, 07.07.2008, Uzun 1209 (KATO: 18196). Ir.-Tur. el.

495. *Stachys macrantha* (C.Koch) Stearn
Ormanüstü plateau, wet meadows, 1815 m,
08.07.2005, Uzun 695 (KATO: 18197);
Ormanüstü plateau, grassy place, 1900 m,
05.08.2005, Uzun 792 (KATO: 18198). Eux.
el.

266. *Prunella* L.

496. *Prunella vulgaris* L. subsp. *vulgaris*
Ormanüstü village, grassy place, 1000 m,
10.05.2005, Uzun 596 (KATO: 18199).
Euro-Sib. el.

497. *Prunella laciniata* (L.) L.

Çeşmeler district, roadside, 910 m,
18.06.2008, Uzun 1108 (KATO: 18200);
Çeşmeler district, stony hills, 634 m,
07.07.2008, Uzun 1210 (KATO: 18201).
Euro-Sib. el.

267. *Origanum* L. – Mercanköşk

498. *Origanum vulgare* L. subsp. *gracile*
(K.Koch) Ietsw.

Ormanüstü village, forest edge, 1620 m,
05.08.2005, Uzun 793 (KATO: 18202);
Çeşmeler district, stony hill, 490 m,
07.07.2008, Uzun 1211 (KATO: 18203);
Sukenarı district, stony hill, 663 m,
07.07.2008, Uzun 1212 (KATO: 18204);
Sukenarı district, in forest, 498 m,
11.07.2008, Uzun 1428 (KATO: 18205). Ir.-
Tur. el.

499. *Origanum vulgare* L. subsp. *viridulum*
(Martrin-Donos) Nyman (**syn.:** *Origanum*
vulgare L. subsp. *viride* (Boiss.) Hayek)
Çeşmeler district, stony hill, 440 m,
08.07.2004, Uzun 550, (KATO: 18206);
Çeşmeler district, stony hill, 1050 m,
11.07.2007, Uzun 1000 (KATO: 18207).

268. *Satureja* L.

500. *Satureja spicigera* (K.Koch) Boiss.
Köprüyanı district, roadside hill, 780 m,
08.07.2008, Uzun 1305 (KATO: 18208).
Eux. el.

269. *Clinopodium* L.

501. *Clinopodium grandiflorum* (L.) Kuntze
(**syn.:** *Calamintha grandiflora* (L.) Moench)
Ormanüstü plateau, shrubby place, 1814 m,
08.07.2005, Uzun 696 (KATO: 18209);
Ormanüstü village, in forest, 1350 m,
26.07.2006, Uzun 951 (KATO: 18210);
Çamlıdüz plateau, in forest, 1589 m,

17.07.2008, Uzun 1609 (KATO: 18211).
Euro-Sib. el.

502. *Clinopodium menthifolium* (Host)
Merino subsp. *menthifolium* (**syn.:**
Calamintha sylvatica Bromf. subsp.
sylvatica)

Çeşmeler district, stony hills, 437 m,
07.07.2008, Uzun 1213 (KATO: 18212).
Euro-Sib. el.

503. *Clinopodium nepeta* (L.) Kuntze subsp.
nepeta (**syn.:** *Calamintha nepeta* (L.) Savi
subsp. *nepeta*)

Çeşmeler, stony hill, 437 m, 07.07.2008,
Uzun 1214 (KATO: 18213).
Medit. el.

504. *Clinopodium nepeta* (L.) Kuntze subsp.
spruneri (Boiss.) Bartolucci & F.Conti (**syn.:**
Calamintha nepeta (L.) Savi subsp.
glandulosa (Req.) P.W. Ball)

Çeşmeler district, stony hill, 583 m,
07.07.2008, Uzun 1215 (KATO: 18214);
Sukenarı district, roadside slope, 640 m,
07.07.2008, Uzun 1216 (KATO: 18215).

505. *Clinopodium umbrosum* (M.Bieb.)
K.Koch

Ormanüstü village, forest edge, 1610 m,
05.08.2005, Uzun 796 (KATO: 18224). Hyr.-
Eux. el.

506. *Clinopodium vulgare* L. subsp. *vulgare*
Ormanüstü village, forest edge, 1370 m,
08.07.2005, Uzun 697 (KATO: 18216);
Çeşmeler district, forest edge, 470 m,
05.08.2005, Uzun 794 (KATO: 18217);
Ormanüstü village, forest edge, 1575 m,
05.08.2005, Uzun 795 (KATO: 18218);
Sukenarı district, stony hill, 663 m,
07.07.2008, Uzun 1217 (KATO: 18219);
Köprüyanı district, open forest, 975 m,
08.07.2008, Uzun 1306 (KATO: 18220);
Çatak, afforestation site, 477 m, 14.07.2008,
Uzun 1491 (KATO: 18221); Çamlıdüz
plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1665 (KATO: 18222);
Ormanüstü plateau, afforestation site, 1862
m, 02.08.2008, Uzun 1778 (KATO: 18223).
Euro-Sib. el.

270. *Thymus* L. – Kekik

507. *Thymus praecox* Opiz subsp. *jankaе*
(Čelak.) J alas (**heterotypic syn.:** *Thymus*
praecox Opiz subsp. *scorpilii* (Velen.) J alas)
Ormanüstü village, on rocks, 1680 m,
08.07.2005, Uzun 698 (KATO: 18225);

Ormanüstü plateau, rocky hills, 1945 m, 08.07.2005, Uzun 699 (KATO: 18226); *ibid.*, 2020 m, 05.08.2005, Uzun 797 (KATO: 18227); *ibid.*, 2000 m, 05.06.2006, Uzun 923 (KATO: 18228); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1779 (KATO: 18229).

508. *Thymus nummularius* M. Bieb. (**syn.:** *Thymus pseudopulegioides* Klokov & Des.-Shost.)

Ormanüstü plateau, grassy place, 2000 m, 05.08.2005, Uzun 798 (KATO: 18230); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1666 (KATO: 18231); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1780 (KATO: 18232).

271. *Mentha* L. – Nane

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

Ormanüstü village, damp place, 1750 m, 05.08.2005, Uzun 799 (KATO: 18233); Sukenarı district, wet open place, 640 m, 07.07.2008, Uzun 1218 (KATO: 18234). Eux. el.

272. *Salvia* L. – Adaçayı

510. *Salvia forskohlei* L.

Ormanüstü village, in forest, 974 m, 05.08.2005, Uzun 800 (KATO: 18235). Eux. el.

511. *Salvia glutinosa* L.

Ormanüstü village, in forest, 974 m, 05.08.2005, Uzun 801 (KATO: 18236). Hyr.-Eux. el.

512. *Salvia virgata* Jacq.

Çeşmeler district, grassy place, 458 m, 05.08.2005, Uzun 802 (KATO: 18237); Çatak district, roadside slope, 600 m, 11.07.2007, Uzun 1001 (KATO: 18238); Sukenarı district, open place, 640 m, 07.07.2008, Uzun 1219 (KATO: 18239). Ir.-Tur. el.

513. *Salvia verticillata* L. subsp. *verticillata*
Çeşmeler district, grassy place, 440 m, 08.07.2005, Uzun 700 (KATO: 18240). Euro-Sib. el.

514. *Salvia verticillata* L. subsp. *amasiaca* (Freyn & Bornm.) Bornm.

Köprüyanı district, forest edge, 1200 m, 11.07.2007, Uzun 1002 (KATO: 18241); Çeşmeler district, stony hills, 490 m,

07.07.2008, Uzun 1220 (KATO: 18242); Çeşmeler district, open place, 583 m, 07.07.2008, Uzun 1221 (KATO: 18243); *ibid.*, 634 m, 07.07.2008, Uzun 1492 (KATO: 18244); Yukarıköy village, open place, 931 m, 14.07.2008, Uzun 1003 (KATO: 18245). Ir.-Tur. el.

F88 [60]. Orobanchaceae Vent.

273. *Orobanche* L. – Canavar out

515. *Orobanche alba* Stephan ex Willd.

Ormanüstü village, forest edge, 929 m, 08.07.2005, Uzun 710 (KATO: 18304); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1670 (KATO: 18305). Parasite

516. *Orobanche caryophyllacea* Sm.

Ormanüstü village, roadside slope, 1600 m, 16.07.2008, Uzun 1582 (KATO: 18306). Parasite

274. *Phelipanche* Pomel

517. *Phelipanche ramosa* (L.) Pomel (**syn.:** *Orobanche ramosa* L.)

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1226 (KATO: 18303). Parasite

275. *Melampyrum* L.

518. *Melampyrum arvense* L. var. *elatius* Boiss.

Çeşmeler district, stony hill, 850 m, 11.07.2007, Uzun 1004 (KATO: 18284); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1225 (KATO: 18285); Köprüyanı district, rocky place, 1017 m, 08.07.2008, Uzun 1307 (KATO: 18286); Köprüyanı district, in forest, 964 m, 08.07.2008, Uzun 1308 (KATO: 18287); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1832 (KATO: 18288). Eux. el., **Endemic**, IUCN: NT

276. *Euphrasia* L. – Gözlük otu, Göz otu

519. *Euphrasia officinalis* L. subsp. *rostkoviana* (Hayne) Towns (**syn.:** *Euphrasia rostkoviana* Hayne subsp. *rostkoviana*)

Ormanüstü plateau, grassy place, 1850 m, 05.05.2005, Uzun 556 (KATO: 18289); Ormanüstü plateau, grassy place, 1900 m, 08.07.2005, Uzun 707 (KATO: 18290). Euro-Sib. el.

520. *Euphrasia stricta* J.P.Wolff ex J.F.Lehm. var. *pectinata* (Ten.) O.Bolòs & Vigo (**bas.:** *Euphrasia pectinata* Ten.)

Ormanüstü village, forest edge, 929 m, 08.07.2005, Uzun 708 (KATO: 18291); Ormanüstü plateau, grassy place, 1850 m, 05.08.2005, Uzun 804 (KATO: 18292); Ormanüstü village, grassy place, 1470 m, 12.07.2008, Uzun 1450 (KATO: 18293); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1783 (KATO: 18294). Euro-Sib. el.

521. *Euphrasia petiolaris* Wettst.

Ormanüstü plateau, grassy place, 1850 m, 05.08.2005, Uzun 805 (KATO: 18295); *ibid.*, 1900 m, 05.08.2005, Uzun 806 (KATO: 18296). Eux. (mt.) el.

277. Pedicularis L.

522. *Pedicularis condensata* M.Bieb.

Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1784 (KATO: 18297). Eux. (mt.) el.

278. Rhinanthus L.

523. *Rhinanthus angustifolius* C.C.Gmel. subsp. *grandiflorus* (Wallr.) D.A.Webb

Ormanüstü plateau, grassy place, 2000 m, 08.07.2005, Uzun 709 (KATO: 18298); Ormanüstü plateau, wet meadows, 2020 m, 05.08.2005, Uzun 807 (KATO: 18299).

279. Rhynchosorys Griseb.

524. *Rhynchosorys elephas* (L.) Griseb. subsp. *elephas*

Ormanüstü village, in forest, 1085 m, 10.07.2008, Uzun 1382 (KATO: 18300). Euro-Sib. el.

525. *Rhynchosorys stricta* (K.Koch) Albov

Ormanüstü village, forest edge, 1670 m, 05.08.2005, Uzun 808 (KATO: 18301). Eux. el.

Aquifoliales Senft

F89 [61]. Aquifoliaceae Bercht. & J.Presl

280. Ilex L. – Çoban püskülü

526. *Ilex colchica* Pojark. subsp. *colchica* – Işığan, Işılgan

Ormanüstü village, in forest, 1046 m, 20.07.2008, Uzun 1652 (KATO: 17984). Eux. el.

Asterales Link

F90 [62]. Campanulaceae Juss.

281. Campanula L. – Çan çiçeği

527. *Campanula latifolia* L.

Ormanüstü village, open forest, 929 m, 08.07.2005, Uzun 711 (KATO: 18307); *ibid.*, 1200 m, 05.08.2005, Uzun 809 (KATO: 18308); Ormanüstü village, forest edge, 1670 m, 05.08.2005, Uzun 810 (KATO: 18309); Köprüyanı district, in forest, 1001 m, 08.07.2008, Uzun 1309 (KATO: 18310); Around Vazelon monastery, open forest, 1205 m, 24.07.2008, Uzun 1746 (KATO: 18311); Ormanüstü village, forest edge, 1350 m, 26.07.2006, Uzun 952 (KATO: 18312). Euro-Sib. el.

528. *Campanula rapunculoides* L. subsp. *rapunculoides*

Ormanüstü village, in forest, 1680 m, 08.07.2005, Uzun 712 (KATO: 18313); *ibid.*, open forest, 1570 m, 05.08.2005, Uzun 811 (KATO: 18314); Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1227 (KATO: 18315); Sukenarı district, stony hill, 663 m, 07.07.2008, Uzun 1228 (KATO: 18316); Çatak, in forest, 483 m, 14.07.2008, Uzun 1496 (KATO: 18317); Çatak, in forest, 1010 m, 14.07.2008, Uzun 1497 (KATO: 18318). Euro-Sib. el.

529. *Campanula rapunculoides* L. subsp. *cordifolia* (K.Koch) Damboldt

Çeşmeler district, forest edge, 700 m, 26.07.2006, Uzun 953 (KATO: 18319); Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1694 (KATO: 18320).

530. *Campanula glomerata* L. (**syn.:** *Campanula glomerata* L. subsp. *hispida* (Witasek) Hayek)

Ormanüstü village, forest edge, 1350 m, 08.07.2005, Uzun 713 (KATO: 18321). Euro-Sib. el.

531. *Campanula alliarifolia* Willd.

Ormanüstü village, forest edge, 1300 m, 08.07.2005, Uzun 714 (KATO: 18322); Çeşmeler district, forest edge, 458 m, 05.08.2005, Uzun 812 (KATO: 18323); Köprüyanı, forest edge, 900 m, 11.07.2007, Uzun 1005 (KATO: 18324). Eux. el.

532. *Campanula collina* Sims subsp. *collina*
Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1383 (KATO: 18325); Çamlıdüz plateau, in forest, 1769 m,

22.07.2008, Uzun 1717 (KATO: 18326); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 1785 (KATO: 18327); *ibid.*, 2000 m, 02.08.2008, Uzun 1786 (KATO: 18328); *ibid.*, 2010 m, 02.08.2008, Uzun 1787 (KATO: 18329). Eux. el.

533. *Campanula betulifolia* K.Koch var. *betulifolia*

Çatak, rock cracks, 400 m, 11.07.2008, Uzun 1430 (KATO: 18330). Eux. el., **Endemic**, IUCN: LC

534. *Campanula tridentata* Schreb.

Ormanüstü plateau, on rocks, 2000 m, 08.07.2005, Uzun 715 (KATO: 18331). Eux. (mt.) el.

535. *Campanula aucheri* A.DC.

Ormanüstü plateau, on rocks, 2000 m, 08.07.2005, Uzun 716 (KATO: 18332); Ormanüstü plateau, stony place, 2000 m, 05.06.2006, Uzun 925 (KATO: 18333). Eux. (mt.) el.

536. *Campanula lactiflora* M.Bieb.

Yenimahalle, forest edge, 780 m, 26.07.2006, Uzun 954 (KATO: 18334). Eux. el.

537. *Campanula stevenii* M.Bieb. subsp. *stevenii*

Ormanüstü plateau, stony-grassy place, 2000 m, 05.06.2006, Uzun 926 (KATO: 18335). Hyr.-Eux. el.

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

Ormanüstü plateau, grassy place, 1850 m, 05.08.2005, Uzun 813 (KATO: 18336); Ormanüstü plateau, open forest, 1800 m, 27.07.2008, Uzun 814 (KATO: 18337); Ormanüstü plateau, degraded spruce forest, 1991 m, 02.08.2008, Uzun 815 (KATO: 18338). Ir.-Tur. el.

539. *Campanula olympica* Boiss.

Ormanüstü village, open forest, 929 m, 08.07.2005, Uzun 717 (KATO: 18339); Ormanüstü plateau, grassy place, 1815 m, 08.07.2005, Uzun 718 (KATO: 18340); Ormanüstü village, grassy place, 1220 m, 05.08.2005, Uzun 816 (KATO: 18341); *ibid.*, 1162 m, 09.07.2008, Uzun 1349 (KATO: 18342); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1384 (KATO: 18343); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1671 (KATO: 18344); Ormanüstü plateau, afforestation

site, 1862 m, 02.08.2008, Uzun 1788 (KATO: 18345). Eux. el.

540. *Campanula rapunculus* L. var. *lambertiana* (A.DC.) Rech.f.

Yenimahalle, roadside slope, 740 m, 26.07.2006, Uzun 955 (KATO: 18346); Çamlıdüz plateau, grassy place, 1740 m, 22.07.2008, Uzun 1718 (KATO: 18347); Çamlıdüz plateau, open forest, 1892 m, 20.07.2008, Uzun 1672 (KATO: 18348). Euro-Sib. el.

F91[63]. Asteraceae Bercht. & J.Presl (= Compositae Giseke)

282. Telekia Baumg.

541. *Telekia speciosa* (Schreb.) Baumg.

Ormanüstü village, in forest, 1091 m, 05.08.2005, Uzun 823 (KATO: 18418). Euro-Sib. el.

283. Pentanema Cass. – Andız otu

542. *Pentanema squarrosum* (L.) D. Gut. Larr., Santos-Vicente, Anderb., E.Rico & M.M.Mart.Ort (**syn.:** *Inula conyzae* (Griess.) Meikle)

Ormanüstü village, stony open hills, 1050 m, 05.08.2005, Uzun 824 (KATO: 18419); Çatak, in forest, 483 m, 14.07.2008, Uzun 1502 (KATO: 18420); Çeşmeler district, in forest, 529 m, 14.07.2008, Uzun 1503 (KATO: 18421). Euro-Sib. el.

284. Pulicaria Gaertner

543. *Pulicaria dysenterica* (L.) Bernh. subsp. *dysenterica*

Cami district, roadside, 600 m, 28.07.2008, Uzun 1755 (KATO: 18422).

285. Antennaria Gaertner

544. *Antennaria dioica* (L.) Gaertn.

Ormanüstü plateau, stony grassy place, 1900 m, 08.07.2005, Uzun 729 (KATO: 18423); Ormanüstü plateau, stony grassy place, 2014 m, 08.07.2005, Uzun 730 (KATO: 18424); *ibid.*, 2015 m, 05.08.2005, Uzun 825 (KATO: 18425). Euro-Sib. el.

286. Omalotheca Cass.

545. *Omalotheca sylvatica* (L.) Sch. Bip. & F.W.Schultz (**syn.:** *Gnaphalium sylvaticum* L.)

Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1791 (KATO: 18426). Euro-Sib. el.

287. *Bombycilaena* (DC.) Smolj

*546. *Bombycilaena erecta* (L.) Smoljan.
Çeşmeler district, stony-grassy places, 700 m, 17.07.2008, Uzun 1612 (KATO: 18427).

288. *Solidago* L. – Altın başak

547. *Solidago virgaurea* L. subsp. *minuta* (L.) Arcang. (**syn.:** *Solidago virgaurea* L. subsp. *alpestris* (Waldst. & Kit.) Gaudin)
Ormanüstü village, open place, 1577 m, 08.07.2005, Uzun 731 (KATO: 18428). Euro-Sib. el.

289. *Kemulariella* Tamamsch.

548. *Kemulariella caucasica* (Willd.) Tamamsch. (**syn.:** *Aster caucasicus* Willd.)
Çamlıdüz plateau, forest edge, 1769 m, 22.07.2008, Uzun 1719 (KATO: 18429). Eux. el.

290. *Erigeron* L.

549. *Erigeron annuus* (L.) Desf.
Çatak, roadside, 500 m, 08.07.2005, Uzun 732 (KATO: 18430). Exotic
550. *Erigeron canadensis* L. (**syn.:** *Conyza canadensis* (L.) Cronquist)
Çatak, roadside, 500 m, 08.07.2005, Uzun 733 (KATO: 18431). Exotic

291. *Bellis* L.

551. *Bellis perennis* L. – Koyungözü papatya
Ormanüstü village, open place, 1577 m, 08.07.2005, Uzun 734 (KATO: 18432). Euro-Sib. el.

292. *Senecio* L. – Kanarya otu

552. *Senecio nemorensis* L. subsp. *nemorensis*
Ormanüstü village, inside damp forest, 1091 m, 05.08.2005, Uzun 826 (KATO: 18433).
553. *Senecio vulgaris* L. subsp. *vulgaris*
Çatak, roadside, 400 m, 05.08.2005, Uzun 827 (KATO: 18434); Ormanüstü village, wet roadside, 850 m, 26.07.2006, Uzun 960 (KATO: 18435); Sukenarı district, wet open place, 640 m, 07.07.2008, Uzun 1236 (KATO: 18436).

293. *Tussilago* L.

554. *Tussilago farfara* L. – Öksürük otu
Ormanüstü village, roadside, 1550 m, 10.05.2005, Uzun 599 (KATO: 18437). Euro-Sib. el.

294. *Petasites* Mill.

555. *Petasites albus* (L.) P.Gaertn. – Kabalak
Ormanüstü village, roadside, 1250 m, 11.07.2007, Uzun 1010 (KATO: 18438). Euro-Sib. el.

295. *Eupatorium* L.

556. *Eupatorium cannabinum* L. subsp. *cannabinum* – Sıtma otu
Çeşmeler district, damp hill, 700 m, 05.08.2005, Uzun 828 (KATO: 18439); Çeşmeler district, roadside, 470 m, 05.08.2005, Uzun 829 (KATO: 18440). Euro-Sib. el.

296. *Cota* J.Gay – Papatya

557. *Cota tinctoria* (L.) J.Gay var. *pallida* (DC.) Özbek & Vural (**syn.:** *Anthemis tinctoria* L. var. *pallida* DC.)
Çeşmeler district, stony slope, 1050 m, 11.07.2007, Uzun 1011 (KATO: 18441); Köprüyanı district, rocky place, 860 m, 08.07.2008, Uzun 1318 (KATO: 18442); ibid., 1017 m, 08.07.2008, Uzun 1319 (KATO: 18443); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1387 (KATO: 18444); Çatak, roadside, 873 m, 18.07.2008, Uzun 1630 (KATO: 18445).
558. *Cota tinctoria* (L.) J.Gay var. *tinctoria* (**syn.:** *Anthemis tinctoria* L. var. *tinctoria*)
Çeşmeler district, stony slope, 1050 m, 11.07.2007, Uzun 1012 (KATO: 18446); Çeşmeler, stony roadside, 437 m, 07.07.2008, Uzun 1237 (KATO: 18447); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1504 (KATO: 18448); Çatak, roadside, 873 m, 18.07.2008, Uzun 1631 (KATO: 18449).

297. *Achillea* L. – Civanperçemi

559. *Achillea biserrata* M.Bieb.
Köprüyanı district, open forest, 975 m, 08.07.2008, Uzun 1320 (KATO: 18450). Eux. el.

***560. *Achillea pannonica* Scheele (syn.: *Achillea millefolium* L. subsp. *pannonica* (Scheele) Hayek)**

Kiremitli district, grassy place, 760-900 m, 13.07.2007, Uzun 1044 (KATO: 18451); Çatak, afforestation site, 873 m, 06.08.2008, Uzun 1834 (KATO: 18452). Euro-Sib. el.

561. *Achillea setacea* Waldst. & Kit.

Çeşmeler district, stony grassy place, 1050 m, 11.07.2007, Uzun 1013 (KATO: 18453). Euro-Sib. el.

298. *Leucanthemum* Mill

562. *Leucanthemum vulgare* (Vaill.) Lam. subsp. *vulgare*

Ormanüstü village, grassy place, 929 m, 08.07.2005, Uzun 735 (KATO: 18454); ibid., 1680 m, 08.07.2005, Uzun 736 (KATO: 18455); Çeşmeler district, stony slope, 1050 m, 11.07.2007, Uzun 1014 (KATO: 18456); Ormanüstü village, grassy place, 1162 m, 09.07.2008, Uzun 1352 (KATO: 18457); Ormanüstü village, open forest, 1086 m, 10.07.2008, Uzun 1388 (KATO: 18458); Ormanüstü plateau, grassy place, 1800 m, 18.07.2008, Uzun 1632 (KATO: 18459). Euro-Sib. el.

299. *Tanacetum* L.

563. *Tanacetum parthenium* (L.) Sch.Bip. – Gümüş düğme

Ormanüstü village, roadside, 1680 m, 08.07.2005, Uzun 737 (KATO: 18460); Çeşmeler district, roadside, 1050 m, 11.07.2007, Uzun 1015 (KATO: 18461); Ormanüstü village, in forest, 1475 m, 21.07.2008, Uzun 1695 (KATO: 18462). Cosmopolitan

300. *Tripleurospermum* Schultz Bip.

564. *Tripleurospermum oreades* (Boiss.) Rech.f. var. *oreades*

Köprüyanı, grassy place, 600 m, 23.05.2006, Uzun 888 (KATO: 18463).

565. *Tripleurospermum elongatum* (DC.) Bornm.

Köprüyanı, open place, 437 m, 11.07.2007, Uzun 1016 (KATO: 18464).

301. *Arctium* L. – Galabak

566. *Arctium minus* (Hill) Bernh. – Galabak
Çeşmeler district, roadside, 750 m, 26.07.2006, Uzun 961 (KATO: 18465).

302. *Cirsium* Mill. – Köygöçüren

567. *Cirsium trachylepis* Boiss.

Ormanüstü plateau, afforestation site, 1664 m, 21.07.2008, Uzun 1696 (KATO: 18466). Eux. el., **Endemic**, IUCN: NT

568. *Cirsium sommieri* Petrak

Çatak, roadside, hill, 550 m, 01.06.2008, Uzun 1079 (KATO: 18467). Ir.-Tur. el., **Endemic**, IUCN: LC

569. *Cirsium vulgare* (Savi) Ten

Çeşmeler district, roadside, 850 m, 26.07.2006, Uzun 962 (KATO: 18468).

570. *Cirsium hypoleucum* DC.

Çeşmeler district, forest edge, shady place, 550 m, 01.06.2008, Uzun 1080 (KATO: 18469). Eux. el.

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

Kiremitli, roadside, 760-900 m, 13.07.2007, Uzun 1045 (KATO: 18470).

303. *Picnomon* Adans.

572. *Picnomon acarna* (L.) Cass.

Çeşmeler district, stony roadside, 437 m, 07.07.2008, Uzun 1238 (KATO: 18471). Medit. el.

304. *Carduus* L.

573. *Carduus nutans* L. subsp. *nutans* – Deve diken

Çeşmeler district, stony-grassy place, 700 m, 01.06.2008, Uzun 1081 (KATO: 18472).

574. *Carduus adpressus* C.A.Mey.

Ormanüstü village, roadside, 1445 m, 17.07.2008, Uzun 1613 (KATO: 18473). Eux. el.

575. *Carduus pycnocephalus* L. subsp. *albidus* (M.Bieb.) Kazmi

Çeşmeler district, stony place, 700 m, 01.06.2008, Uzun 1082 (KATO: 18474).

305. *Jurinea* Cass.

576. *Jurinea consanguinea* DC.

Çeşmeler district, stony shrubby place, 700 m, 01.06.2008, Uzun 1083 (KATO: 18475);

Çeşmeler district, stony place, 880 m, 18.06.2008, Uzun 1115 (KATO: 18476);

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1239 (KATO: 18477);

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1240 (KATO: 18478);

Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1241 (KATO: 18479).

577. *Jurinea mollis* (L.) Rechb.

Çeşmeler district, stony hill, 560 m, 07.07.2008, Uzun 1242 (KATO: 18480).

306. *Centaurea* L. – Peygamber çiçeği

578. *Centaurea jacea* L. subsp. *jacea*

Ormanüstü village, grassy place, 1100 m, 05.08.2005, Uzun 830 (KATO: 18481); Çeşmeler district, grassy place, 750 m, 12.07.2007, Uzun 1026 (KATO: 18482). Euro-Sib. el.

579. *Centaurea helenioides* Boiss.

Ormanüstü village, forest edge, 1445 m, 17.07.2008, Uzun 1614 (KATO: 18483). Eux. el., **Endemic**, IUCN: NT

580. *Centaurea iberica* Trevir. ex Spreng.

Maçka-Çatak, Hamsiköy aspect, roadside, 601 m, 29.07.2008, Uzun 1757 (KATO: 18484).

581. *Centaurea urvillei* DC. subsp. *stepposa* Wagenitz

Çeşmeler district, stony hill, 1200, 13.07.2007, Uzun 1046 (KATO: 18485); Çeşmeler district, stony place, 700 m, 01.06.2008, Uzun 1084 (KATO: 18486). Ir-Tur. el., **Endemic**, IUCN: LC

307. *Psephellus* Cass. – Peygamber çiçeği

582. *Psephellus hypoleucus* (DC.) Boiss. (syn.: *Centaurea hypoleuca* DC.)

Köprüyanı district, slope, 600 m, 23.05.2006, Uzun 889 (KATO: 18487); Çeşmeler district, stony hill, 700 m, 01.06.2008, Uzun 1085 (KATO: 18488). Eux. el.

308. *Carthamus* L. – Aspir

583. *Carthamus lanatus* L.

Köprüyanı, open place, 980 m, 11.07.2007, Uzun 1017 (KATO: 18489).

309. *Carlina* L.

584. *Carlina vulgaris* L. subsp. *vulgaris*

Çeşmeler district, roadside, 780 m, 11.07.2007, Uzun 1018 (KATO: 18490).

310. *Echinops* L. – Topuz

585. *Echinops ossicus* K.Koch (syn.: *Echinops galaticus* Freyn.)

Çeşmeler district, roadside, 1050 m, 11.07.2007, Uzun 1019 (KATO: 18491). Eux. el.

311. *Cichorium* L.

586. *Cichorium intybus* L. – Hindiba

Çeşmeler district, stony hill, 437 m, 07.07.2008, Uzun 1243 (KATO: 18492). Cosmopolitan

312. *Tragopogon* L.

587. *Tragopogon porrifolius* L. subsp. *longirostris* (Sch.Bip.) Greuter (bas.: *Tragopogon longirostris* Bischoff ex Sch. Bip.)

Çeşmeler district, *Carpinus orientalis* thicket, 750 m, 01.06.2008, Uzun 1086 (KATO: 18493).

313. *Leontodon* L. – Aslandişi

588. *Leontodon hispidus* L. subsp. *hispidus*

Ormanüstü plateau, open place, 1800 m, 05.08.2005, Uzun 831 (KATO: 18494); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1792 (KATO: 18495).

589. *Leontodon hispidus* L. subsp. *hastilis* (L.) Corb. (des. inval.: *Leontodon hispidus* L. subsp. *glabratus* (W.Koch) Bisch.)

Ormanüstü plateau, grassy place, 1945 m, 08.07.2005, Uzun 738 (KATO: 18496); Ormanüstü village, open place, 1300 m, 05.08.2005, Uzun 832 (KATO: 18497); Ormanüstü plateau, grassy place, 2020 m, 05.06.2006, Uzun 928 (KATO: 18498); Çeşmeler district, degraded spruce forest, 541 m, 06.08.2008, Uzun 1835 (KATO: 18499). Euro-Sib. el.

***590. *Leontodon oxylepis* Boiss. & Heldr.**

Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1244 (KATO: 18500); Çeşmeler district, stony hill, 942 m, 08.07.2008, Uzun 1321 (KATO: 18501); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1433 (KATO: 18502); Çatak, open forest, 458 m, 14.07.2008, Uzun 1505 (KATO: 18503). Medit. (mt.) el.

314. *Picris* L.

591. *Picris hieracioides* L. subsp. *hieracioides*

Çeşmeler district, stony roadside, 1050 m, 11.07.2007, Uzun 1020 (KATO: 18504); Çatak, in forest, 483 m, 14.07.2008, Uzun 1506 (KATO: 18505). Euro-Sib. el.

315. *Sonchus L.*

592. *Sonchus oleraceus L.*

Ormanüstü village, open place, 1200 m, 08.07.2005, Uzun 739 (KATO: 18506).

316. *Reichardia Roth.*

593. *Reichardia dichotoma (DC.) Freyn (homotypic syn.: *Reichardia glauca* V.A.Matthews)*

Köprüyanı, open place, 700 m, 11.07.2007, Uzun 1021 (KATO: 18507); Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1245 (KATO: 18508). Ir.-Tur. el.

317. *Hieracium L. – Şahin otu*

594. *Hieracium subsilvularum (Zahn) P.D.Sell & C.West*

Ormanüstü village, in forest, 1710 m, 21.07.2008, Uzun 1697 (KATO: 18509). Eux. el., **Endemic**, IUCN: DD

595. *Hieracium gentiliforme (Zahn) P.D.Sell & C.West*

Ormanüstü plateau, pure *Picea orientalis* stand, 1614 m, 10.07.2008, Uzun 1389 (KATO: 18510); Yukarıköy village, in forest, 931 m, 14.07.2008, Uzun 1507 (KATO: 18511); Çamlıdüz plateau, pure *Picea orientalis* stand, 1892 m, 20.07.2008, Uzun 1673 (KATO: 18512). Eux. el., **Endemic**, IUCN: VU

596. *Hieracium medianiforme (Litv. & Zahn) Üksip*

Ormanüstü village, in forest, 1647 m, 15.07.2008, Uzun 1558 (KATO: 18513); Çamlıdüz plateau, in forest, 1740 m, 22.07.2008, Uzun 1720 (KATO: 18514). Eux. el.

597. *Hieracium transiens (Freyn) Freyn subsp. karagoellense (Zahn) Greuter (syn.: *Hieracium karagoellense (Zahn) P.D.Sell & C.West*)*

Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1793 (KATO: 18515). Eux. el., **Endemic**, IUCN: LC

598. *Hieracium transiens (Freyn) Freyn subsp. erythrocarpum (Peter) Greuter (syn.: *Hieracium erythrocarpum* Peter)*

Ormanüstü village, in forest, 1615 m, 26.07.2006, Uzun 963 (KATO: 18516); Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1390 (KATO: 18517); Çamlıdüz plateau, in forest, 1668 m, 17.07.2008, Uzun 1615 (KATO: 18518);

Çamlıdüz plateau, in forest, 1720 m, 17.07.2008, Uzun 1616 (KATO: 18519); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1794 (KATO: 18520). Euro-Sib. el.

318. *Pilosella Hill.*

599. *Pilosella hoppeana (Schult.) F.W. Schultz & Sch.Bip. subsp. troica (Zahn) P.D.Sell & C.West*

Ormanüstü plateau, grassy place, 2020 m, 05.08.2005, Uzun 833 (KATO: 18521); Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1246 (KATO: 18522); Köprüyanı district, open forest, 701 m, 08.07.2008, Uzun 1322 (KATO: 18523); ibid., 1001 m, 08.07.2008, Uzun 1508 (KATO: 18524).

600. *Pilosella hoppeana (Schult.) F.W. Schultz & Sch.Bip. subsp. testimonialis (Nägeli ex Peter) P.D.Sell & C.West*

Çatak, in forest, 1010 m, 14.07.2008, Uzun 1508 (KATO: 18525). Euro-Sib. el.

601. *Pilosella ruprechtii (Boiss.) P.D.Sell & C.West*

Ormanüstü village, open forest, 1086 m, 10.07.2008, Uzun 1391 (KATO: 18526).

602. *Pilosella piloselloides (Vill.) Soják subsp. piloselloides*

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1247 (KATO: 18528);

Çeşmeler district, open place, 663 m, 07.08.2008, Uzun 1840 (KATO: 18527).

603. *Pilosella bauhini (Schult.) Arv.-Touv. subsp. magyarica (Peter) S.Bräut. (syn.: *Pilosella piloselloides (Vill.) Soják subsp. magyarica (Peter) S.Bräut. & Greuter, *Pilosella piloselloides (Vill.) Soják subsp. megalomastix (NP.) P.D.Sell & C.West*)**

Ormanüstü village, open place, 950 m, 08.07.2005, Uzun 740 (KATO: 18529);

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1248 (KATO: 18531);

Çeşmeler district, stony hill, 634 m, 07.07.2008, Uzun 1249 (KATO: 18532);

Sukenarı district, in forest, 498 m, 11.07.2008, Uzun 1434 (KATO: 18533).

604. *Pilosella cymosa (L.) F.W.Schultz & Sch.Bip. subsp. cymosa*

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1250 (KATO: 18534);

Çatak, in forest, 483 m, 14.07.2008, Uzun 1509 (KATO: 18535). Euro-Sib. el.

605. *Pilosella onegensis* Norrl. (**syn.:** *Pilosella caespitosa* (Dumort.) P.D.Sell & C.West subsp. *brevipila* (Nägeli & Peter) P.D.Sell & C.West)

Ormanüstü village, afforestation site, 1683 m, 10.07.2008, Uzun 1392 (KATO: 18536); Ormanüstü village, open place, 1879 m, 20.07.2008, Uzun 1674 (KATO: 18537).

319. Mycelis L.

606. *Mycelis muralis* (L.) Dumort.

Ormanüstü village, in forest, 1050 m, 05.08.2005, Uzun 835 (KATO: 18542); Ormanüstü village, place filled with soil, 850 m, 26.07.2006, Uzun 964 (KATO: 18543). Euro-Sib. el.

320. Lactuca L.

607. *Lactuca macrophylla* (Willd.) A.Gray (**syn.:** *Prenanthes cacaliifolia* (M.Bieb.) Beauverd)

Ormanüstü village, in forest, 1530 m, 05.08.2005, Uzun 834 (KATO: 18538). Eux. el.

608. *Lactuca sativa* L. subsp. *serriola* (L.) Galasso, Banfi, Bartolucci & Ardenghi (**syn.:** *Lactuca serriola* L.) – Acı marul, Eşek marulu

Yukarıköy village, roadside, 931 m, 14.07.2008, Uzun 1510 (KATO: 18540).

609. *Lactuca tatarica* (L.) CA.Mey. (**syn.:** *Mulgedium tataricum* (L.) DC.)

Ormanüstü village, in forest, 1680 m, 08.07.2005, Uzun 741 (KATO: 18539).

610. *Lactuca viminea* (L.) J.Presl & C.Presl subsp. *viminea* (**syn.:** *Scariola viminea* (L.) F.W.Schmidt)

Çeşmeler district, stony roadside, 437 m, 07.07.2008, Uzun 1251 (KATO: 18541).

321. Lapsana L.

611. *Lapsana grandiflora* M.Bieb. (**syn.:** *Lapsana communis* L. subsp. *grandiflora* (M.Bieb.) P.D.Sell.)

Köprüyanı district, in forest, 1001 m, 08.07.2008, Uzun 1324 (KATO: 18544); Çatak, in forest, 483 m, 14.07.2008, Uzun 1511 (KATO: 18545); Ormanüstü plateau, afforestation site, 1862 m, 02.08.2008, Uzun 1795 (KATO: 18546); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1675 (KATO: 18547); *ibid.*, 1786 m, 20.07.2008, Uzun 1676 (KATO: 18548);

Ormanüstü plateau, Milia Tepesi, in forest, 1948 m, 22.07.2008, Uzun 1721 (KATO: 18549); Çamlıdüz plateau, in forest, 1740 m, 22.07.2008, Uzun 1722 (KATO: 185509). Eux. (mt.) el.

322. Taraxacum Wiggers – Karahindiba

612. *Taraxacum stevenii* (Spreng.) DC. (**syn.:** *Taraxacum crepidiforme* DC.)

Ormanüstü plateau, grassy place, 1750 m, 10.05.2008, Uzun 1050 (KATO: 18551). Ir.-Tur. el.

613. *Taraxacum scaturiginosum* G.E.Haglund

Ormanüstü plateau, damp creekside, 1870, 05.06.2006, Uzun 929 (KATO: 18552).

614. *Taraxacum butleri* Soest

Köprüyanı district, roadside slope, 580 m, 10.05.2005, Uzun 600 (KATO: 18553).

323. Crepis L.

615. *Crepis setosa* Haller f.

Çeşmeler district, stony hill, 490 m, 07.07.2008, Uzun 1252 (KATO: 18554). Euro-Sib. el.

Dipsacales Juss. ex Bercht. & J.Presl

F92 [64]. Adoxaceae E.Mey. (= Viburnaceae Raf.)

324. Viburnum L. – Gilaburu, Kartopu

616. *Viburnum orientale* Pall.

Köprüyanı district, forest edge, 1000 m, 23.05.2006, Uzun 887 (KATO: 18396); Yenimahalle, in forest, 760 m, 26.07.2006, Uzun 957 (KATO: 18397). Eux. el.

617. *Viburnum opulus* L. – Kartopu

Ormanüstü village, forest edge, 950 m, 08.07.2005, Uzun 727 (KATO: 18398). Euro-Sib. el.

325. Sambucus L. – Mürver

618. *Sambucus ebulus* L. – Otsu mürver

Ormanüstü village, forest edge, 1110 m, 08.07.2005, Uzun 725 (KATO: 18394). Euro-Sib. el.

619. *Sambucus nigra* L. – Ağaç mürver

Ormanüstü village, forest edge, 1680 m, 08.07.2005, Uzun 726 (KATO: 18395). Euro-Sib. el.

F93 [65]. Caprifoliaceae Juss. (including Dipsacaceae and Valerianaceae)

326. *Lonicera* L. – Hanımeli

620. *Lonicera caucasica* Pall. subsp. *orientalis* (Lam.) Chamb. & Long – Kafkas hanımelisi

Ormanüstü village, forest edge, 950 m, 08.07.2005, Uzun 723 (KATO: 18385); *ibid.*, 1577 m, 08.07.2005, Uzun 724 (KATO: 18386); Sukenarı district, in forest, 663 m, 07.07.2008, Uzun 1234 (KATO: 18387); Sukenarı district, in forest, 498 m, 11.07.2008, Uzun 1431 (KATO: 18388); Çatak, in forest, 486 m, 14.07.2008, Uzun 1500 (KATO: 18389); Ormanüstü village, in forest, 1133 m, 15.07.2008, Uzun 1557 (KATO: 18390). **Endemic**, IUCN: LC

621. *Lonicera xylosteum* L.

Ormanüstü village, forest edge, 1200 m, 05.08.2005, Uzun 818 (KATO: 18391); *ibid.*, 1280 m, 09.07.2008, Uzun 1350 (KATO: 18392); *ibid.*, 1086 m, 10.07.2008, Uzun 1386 (KATO: 18393).

327. *Dipsacus* L. – Tarak otu, Fırça otu

622. *Dipsacus laciniatus* L.

Yukarıköy village, road and field edges, 600 m, 29.07.2008, Uzun 1756 (KATO: 18404); Çatak, road and field edges, 870 m, 30.07.2008, Uzun 1758 (KATO: 18405).

623. *Dipsacus pilosus* L.

Ormanüstü village, damp roadside, 1560 m, 26.07.2006, Uzun 958 (KATO: 18406). Euro-Sib. el.

328. *Cephalaria* Schrader ex Roemer & Schultes – Acımık

624. *Cephalaria gigantea* (Ledeb.) Bobrov
Ormanüstü village, grassy place, 1400 m, 12.07.2007, Uzun 1025 (KATO: 18407); *ibid.*, 1280 m, 09.07.2008, Uzun 1351 (KATO: 18408). Eux. (mt.) el.

329. *Knautia* L.

625. *Knautia involucrata* Sommier & Levier
Ormanüstü village, grassy place, 1190 m, 05.08.2005, Uzun 820 (KATO: 18409); Ormanüstü village, open place, 1620 m, 05.08.2005, Uzun 821 (KATO: 18410); Yenimahalle, forest edge, 780 m, 26.07.2006, Uzun 959 (KATO: 18411); Ormanüstü

plateau, roadside, 1750 m, 02.08.2008, Uzun 1790 (KATO: 18412). Eux. (mt.) el.

330. *Scabiosa* L. – Uyuz otu

626. *Scabiosa columbaria* L. subsp. *columbaria*

Çeşmeler district, stony hill, 583 m, 07.07.2008, Uzun 1235 (KATO: 18413); Çatak, afforestation site, 477 m, 14.07.2008, Uzun 1501 (KATO: 18414).

627. *Scabiosa intermedia* (Post) Bornm. (bas.: *Scabiosa columbaria* L. subsp. *columbaria* var. *intermedia* (Post) Matthews)
Çeşmeler district, roadside, 415 m, 05.08.2005, Uzun 822 (KATO: 18415); Köprüyanı, open place, 700 m, 11.07.2007, Uzun 1009 (KATO: 18416); Kiremitli, roadside, 760-900 m, 13.07.2007, Uzun 1043 (KATO: 18417)

331. *Valeriana* L. – Kedi otu

628. *Valeriana alliariifolia* Adams.

Ormanüstü village, forest edge, 950 m, 08.07.2005, Uzun 728 (KATO: 18399); Ormanüstü village, damp hills, 1550 m, 05.08.2005, Uzun 819 (KATO: 18400).

629. *Valeriana leucophaea* DC.

Ormanüstü plateau, stony place, 2000 m, 05.06.2006, Uzun 927 (KATO: 18401). Hyr.-Eux. (mt.) el.

332. *Centranthus* DC.

630. *Centranthus longiflorus* Steven subsp. *longiflorus*

Çatak, rocky slope, 400 m, 11.07.2008, Uzun 1432 (KATO: 18402). Ir.-Tur. el.

333. *Valerianella* Mill.

631. *Valerianella dentata* (L.) Pollich
Çeşmeler district, stony hill, 880 m, 18.06.2008, Uzun 1114 (KATO: 18403).

Apiales Nakai

F94 [66]. Araliaceae Juss.

334. *Hedera* L. – Duvar sarmaşığı

632. *Hedera helix* L. subsp. *helix*

Köprüyanı district, in forest, 1017 m, 08.07.2008, Uzun 1303 (KATO: 18066).

633. *Hedera colchica* (K.Koch) K.Koch
Ormanüstü village, in forest, 1104 m, 09.07.2008, Uzun 1347 (KATO: 18067). Eux. el.

F95 [67]. Apiaceae Lindl. (= Umbelliferae Juss.)

335. *Pastinaca* L.

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

Ormanüstü plateau, damp places in forest, 1596 m, 17.07.2008, Uzun 1604 (KATO: 18068).

336. *Sanicula* L.

635. *Sanicula europaea* L.

Ormanüstü village, in forest, 950 m, 08.07.2005, Uzun 685 (KATO: 18069). Euro-Sib. el.

337. *Astrantia* L.

636. *Astrantia maxima* Pall. subsp. *maxima*

Ormanüstü village, grassy place, 1000 m, 10.05.2005, Uzun 584 (KATO: 18070); Ormanüstü village, forest edge, 929 m, 08.07.2005, Uzun 686 (KATO: 18071). Eux. el.

637. *Astrantia maxima* Pall. subsp. *haradjianii* (I.Griñ.) Rech.f.

Ormanüstü village, damp places in forest, 1780 m, 17.07.2008, Uzun 1605 (KATO: 18072); *ibid.*, 1579 m, 20.07.2008, Uzun 1656 (KATO: 18073); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1657 (KATO: 18074). **Endemic**, IUCN: LC

338. *Eryngium* L. – *At dikenii*

638. *Eryngium giganteum* M.Bieb.

Çeşmeler district, open place, 440 m, 08.07.2005, Uzun 687 (KATO: 18075); Çatak, open forest, 458 m, 14.07.2008, Uzun 1482 (KATO: 18076). Eux. el.

339. *Chaerophyllum* L.

639. *Chaerophyllum aureum* L.

Ormanüstü village, forest edge, 1670 m, 17.07.2008, Uzun 1606 (KATO: 18077).

340. *Anthriscus* Pers.

640. *Anthriscus nemorosa* (M.Bieb.) Spreng.

Ormanüstü village, forest edge, 1670 m, 17.07.2008, Uzun 1607 (KATO: 18078).

341. *Scaligeria* DC.

641. *Scaligeria tripartita* (Kalen.) Tamamsch.

Ormanüstü plateau, grassy place, 1850 m, 05.06.2006, Uzun 915 (KATO: 18079). Eux. el.

342. *Carum* L.

642. *Carum meifolium* (M.Bieb.) Boiss.

Ormanüstü plateau, grassy place, 2000 m, 05.06.2006, Uzun 916 (KATO: 18080); *ibid.*, afforestation site, 1728 m, 20.07.2008, Uzun 1658 (KATO: 18081).

343. *Pimpinella* L.

643. *Pimpinella rhodantha* Boiss.

Ormanüstü village, grassy place, 950 m, 26.07.2006, Uzun 947 (KATO: 18082); *ibid.*, forest edge, 1445 m, 17.07.2008, Uzun 1608 (KATO: 18083); Çamlıdüz plateau, afforestation site, 1728 m, 20.07.2008, Uzun 1659 (KATO: 18084).

644. *Pimpinella tragiium* Vill. subsp. *polyclada* (Boiss. & Heldr.) Tutin

Çeşmeler district, stony hills, 634 m, 07.07.2008, Uzun 1189 (KATO: 18085); Çeşmeler district, stony hill, 632 m, 11.07.2008, Uzun 1425 (KATO: 18086); Sukenarı district, in forest, 498 m, 11.07.2008, Uzun 1426 (KATO: 18087); Çatak, open forest, 458 m, 14.07.2008, Uzun 1483 (KATO: 18088).

344. *Seseli* L.

645. *Seseli petraeum* M.Bieb.

Çeşmeler district, rocky place, 890 m, 18.06.2008, Uzun 1104 (KATO: 18089); Çeşmeler district, stony hills, 490 m, 07.07.2008, Uzun 1190 (KATO: 18090); Kiremitli district, on rocks, 760 m, 13.07.2007, Uzun 1038 (KATO: 18091). Eux. (mt.) el., **Rare**, IUCN: VU

345. *Aethusa* L.

646. *Aethusa cynapium* L. subsp. *cynapium*

Köprüyanı district, open forest, 975 m, 08.07.2008, Uzun 1304 (KATO: 18092). Euro-Sib. el.

346. *Foeniculum* Mill.

647. *Foeniculum vulgare* Mill. subsp. *vulgare* – Rezene

Çatak district, roadside slopes, 490 m, 07.07.2008, Uzun 1191 (KATO: 18093).

347. *Physospermum* Cusson

648. *Physospermum cornubiense* (L.) DC.
Çeşmeler district, stony hills, 634 m,
07.07.2008, Uzun 1192 (KATO: 18094);
Çeşmeler district, in forest, 529 m,
14.07.2008, Uzun 1484 (KATO: 18095);
Çamlıdüz plateau, afforestation site, 1728 m,
20.07.2008, Uzun 1660 (KATO: 18096);
Çamlıdüz plateau, in forest, 1786 m,
20.07.2008, Uzun 1661 (KATO: 18097);
Çamlıdüz plateau, open forest, 1892 m,
20.07.2008, Uzun 1662 (KATO: 18098);
Çamlıdüz plateau, in forest, 1740 m,
22.07.2008, Uzun 1715 (KATO: 18099).

348. *Bupleurum* L.

649. *Bupleurum falcatum* L. subsp. *persicum*
(Boiss.) Koso-Pol.
Çatak, afforestation site, 873 m, 06.08.2008,
Uzun 1828 (KATO: 18100).

349. *Peucedanum* L.

650. *Peucedanum longifolium* Waldst. & Kit
Çeşmeler district, edge of rocks, 1050 m,
11.07.2007, Uzun 993 (KATO: 18101).
Euro-Sib. el.

350. *Heracleum* L.

651. *Heracleum platytaenium* Boiss. –
Tavşancıl otu
Çeşmeler district, grassy place, 1050 m,
11.07.2007, Uzun 994 (KATO: 18102);
Vicinity of Vazelon monastery, open place,
1200 m, 24.07.2008, Uzun 1740 (KATO:
18103). Eux. el., **Endemic**, IUCN: LC

351. *Laser* Borkh.

652. *Laser trilobum* (L.) Borkh. – Kefe
kimyonu
Çeşmeler district, forest edge, rocky place,
550 m, 01.06.2008, Uzun 1069 (KATO:
18104).

***653. *Laser affine* (Ledeb.) Wojew. & Spalik**
(**bas.:** *Laserpitium affine* Ledeb.)
Çamlıdüz plateau, in forest, 1769 m,
22.07.2008, Uzun 1716 (KATO: 18105).
Eux. (mt.) el., **Rare**, IUCN: DD

352. *Torilis* Adans.

654. *Torilis arvensis* (Huds.) Link subsp.
arvensis
Çeşmeler district, stony place, 490 m,
07.07.2008, Uzun 1193 (KATO: 18106).

353. *Caucalis* L.

655. *Caucalis platycarpus* L.
Çeşmeler district, stony hill, 490 m,
07.07.2008, Uzun 1194 (KATO: 18107).

354. *Daucus* L.

656. *Daucus carota* L. subsp. *carota* –
Yabani havuç
Yukarıköy village, grassy place, 931 m,
14.07.2008, Uzun 1485 (KATO: 18108).
Cultivated