Kastamonu Uni., Orman Fakültesi Dergisi, 2019, 19(1): 116-136 Research Article
Kastamonu Univ., Journal of Forestry Faculty
Doi:10.17475/kastorman.543547

Flora and Botanic Tourism Potential of Yaralıgöz (Kastamonu) Education and Observation Forest

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Received Date: 05.11.2018 Accepted Date: 26.02.2019

Abstract

Aim of Study: In this study, it was aimed to identify the flora of Yaralıgöz Education and Observation Forest and revealing its potential in terms of botanic tourism.

Area of study: The study area is the Yaralıgöz Education and Observation Forest, which is within the boundaries of four forest planning units (Devrekani, Tezcan, Şeyhşaban and Karacakaya) belonging to the Kastamonu Regional Directorate. Yaralıgöz Education and Observation Forest is located in the transitional zone between the Euxine province of Euro-Siberian and Irano-Turanian floristic areas in terms of plant geography.

Material and Methods: This research is a flora study and the materials of this stıudy included plant specimens collected from Yaralıgöz Mountainbetween 2011 and 2012.

Main Results: With this study, 374 vascular plant taxa were identified. Pteridophyta section were represented by 6 taxa, Pinidae sub-class by 7 taxa, and Magnoliidae subclass by 361 taxa. The largest family was Asteraceae (45; 12.1%), followed by Lamiaceae (35; 9.3%), Rosaceae and Fabaceae (27; 7.2%). The phytogeographic regions of 190 taxa represented in the study area are as follows: Euro-Siberian 144 (38.7%), Irano-Turanian 24 (6.4%) and Mediterranean 22 (5.9%). Raunkiaer's life forms showed that Hemicryptophytes with 50.7% Phanerophytes with 15.7% and Cryptophytes with 14.9% were the most frequent life forms.

Highlights: Twenty-three endemic and one rare plant taxa were identified. In addition, new distribution areas were determined for the endemic taxon *Acer hyrcanum* subsp. *keckianum* and European spruce. Because of the presence of many characteristic plant species, Yaralıgöz Education and Observation Forest has been identified to have an important botanic tourism potential.

Keywords: Ecotourism, flora, endemic, plant biodiversity, Turkey, Yaralıgöz Mountain.

Yaralıgöz (Kastamonu) Eğitim ve Gözlem Ormanı'nın Florası ve Botanik Turizm Potansiyeli

Öz

Çalışmanın amacı: Bu çalışmada, Yaralıgöz Eğitim ve Gözlem Ormanı'nın florasının belirlenmesi ve botanik turizm açısından potansiyelinin ortaya çıkarılması amaçlanmıştır.

Çalışma alanı: Çalışma alanı Kastamonu Bölge Müdürlüğü'ne ait dört orman planlama birimi (Devrekani, Tezcan, Şeyhşaban ve Karacakaya) sınırları içerisinde kalan Yaralıgöz Eğitim ve Gözlem Ormanı'dır. Yaralıgöz Eğitim ve Gözlem Ormanı, bitki coğrafyası açısından Avrupa-Sibirya ile İran-Turan floristik alanları arasındaki geçiş zonunda konumlanmaktadır.

Materyal ve Metod: Bu araştırma bir flora çalışması olup, materyalini 2011-2012 yılları arasında yapılan arazi çalışmaları sonucu toplanan damarlı bitkiler oluşturmaktadır.

Sonuçlar: Bu çalışma ile, 374 damarlı bitki tespit edilmiştir. Pteridophyta bölümü 6 takson, Pinidae alt-sınıfı 7 takson ve Magnoliidae alt-sınıfı ise 361 takson ile temsil edilmektedir. Çalışma alanında en geniş familya Asteraceae (45; %12.1) olup bunu Lamiaceae (35; %9.3), Rosaceae ve Fabaceae (27; %7.2) familyaları takip etmektedir. Çalışma alanında tespit edilen bitki taksonlarından 190'ının fitocoğrafik bölgesi belirlenmiş ve bir bütün olarak değerlendirildiğinde Avrupa-Sibirya 144 (%38.7), İran-Turan 24 (%6.4) ve Akdeniz ise 22 (%5.9) taksona sahiptir. Raunkier'in hayat formlarına göre Hemikriptofitler %50.7, Fanerofitler %15.7 ve Kriptofitler ise %14.9 ile en sık görülen bitki formlarıdır.

Önemli vurgular: Çalışma sonucunda 23'ü endemik, 1'i nadir olmak üzere 24 tane tehlike altında olan bitki taksonu tespit edilmiştir. Bu endemik türlerden *Acer hyrcanum* subsp. *keckianum* ve Avrupa ladini taksonları için yeni yayılış alanları tespit edilmiştir. Birçok karakteristik bitki türünün varlığı nedeniyle, Yaralıgöz Eiğitim ve Gözlem Ormanı'nın önemli bir botanik turizm potansiyeline sahip olduğu belirlenmiştir.

Anahtar Kelimeler: Ekoturizm, flora, endemik, bitkisel biyoçeşitlilik, Türkiye, Yaralıgöz Dağı.

Citation (Atıf): Karakose, M. & Terzioglu, S. (2019). Flora and botanic tourism potential of Yaralıgöz (Kastamonu) Education and Observation Forest. *Kastamonu University Journal of Forestry Faculty*, 19 (1), 116-136.

Introduction

The concept of sustainability has emerged in order to sustain the existence of forest ecosystems within the balance of conservation-use (Kurtoğlu and Akbulut (2015). The concept of sustainability in forestry aims to provide various forest products and the social functions of the forest (Şen and Buğday, 2015). Developments in the world population and industry have led to an increase in demand for natural resource needs. This negative effect has reduced the productivity and continuity of many forest ecosystems (Özcan, 2016).

Tourism includes visits to different environments to meet the needs of people such as short-term travel, sight, recreation, and learning. Thirty-five years ago, a new concept emerged for human beings. This concept, called as nature tourism or ecotourism, has emerged based on the relationship between man and nature. Ecotourism is a kind of tourism that is sensitive to natural areas, protecting the environment and taking care of the welfare of the local people. Kurdoğlu (2002) describes ecotourism as the basis of the definition of International Union for Conservation of Nature (IUCN). He stated that environmentally sensitive tourism, by understanding nature and cultural resources, contribute to preserve the nature, has a low visitor impact and provides socio-economic benefits to local people.

Turkey has a magnificent botanic tourism potential assessed in terms of ecotourism (Anonymous, 2018). The flora (botanic) tourism, which constitutes a sub-section of ecotourism, is an alternative tourism branch, which has emerged in parallel with the increasing interest in biological diversity in recent years, and their protection and development (Irmak and Yılmaz, 2011). Turkey, due to geographic location, topography, microclimate diversity, and the presence at the junction of three different floristic regions, is one of the most important centers in the world in terms of plant biodiversity by hosting many ecosystems (Terzioğlu, Bilgili & Karaköse, 2009). As a result of this situation, of the 374000 (Christenhusz and Byng, 2016) plant species registered in the world, 12816 plant species are found within the borders of our country and the number of endemic plant taxa is known as 4040 (Güner, Aslan, Ekim, Vural & Babaç, 2012; Özhatay, Kültür & Gürdal, 2013; 2015; 2017). Botanic tourism isknown to provide contributions to regional economic development, providing four seasons of tourism, job opportunities (Ekim, 2002).

In Kastamonu province, one of the first places to come to mind when ecotourism tourism mentioned is Yaralıgöz Mountain. The Regional Directorate of Forestry of Kastamonu (FRD) has planned a destination (Yaralıgöz Education and Observation Forest), for creating nature-based tourism in Yaralıgöz Mountain and its vicinity, in order to contribute to the tourism and the development of the province. Within in this destination, Kastamonu FRD has created different thematic areas such as biodiversity, ornithology, recreation areas, panoramic views, educational forest, and natural old-growth forests. In this context, the project was carried out to determine the plant biodiversity of Yaralıgöz EOF by a cooperation between Kastamonu FRD and Karadeniz Technical University Faculty of Forestry. This study constitutes only the flora level of the project.

Material and Methods

Study area

This study covers part of the doctoral study of the author. Yaralıgöz EOF is located within the boundaries of Devrekani, Bozkurt and Çatalzeytin districts. Based on the planning unit, it remains within the four planning units (Devrekani, Şeyhşaban, Tezcan and Karacakaya) of the Kastamonu Forest Regional Directorate (Figure 1).

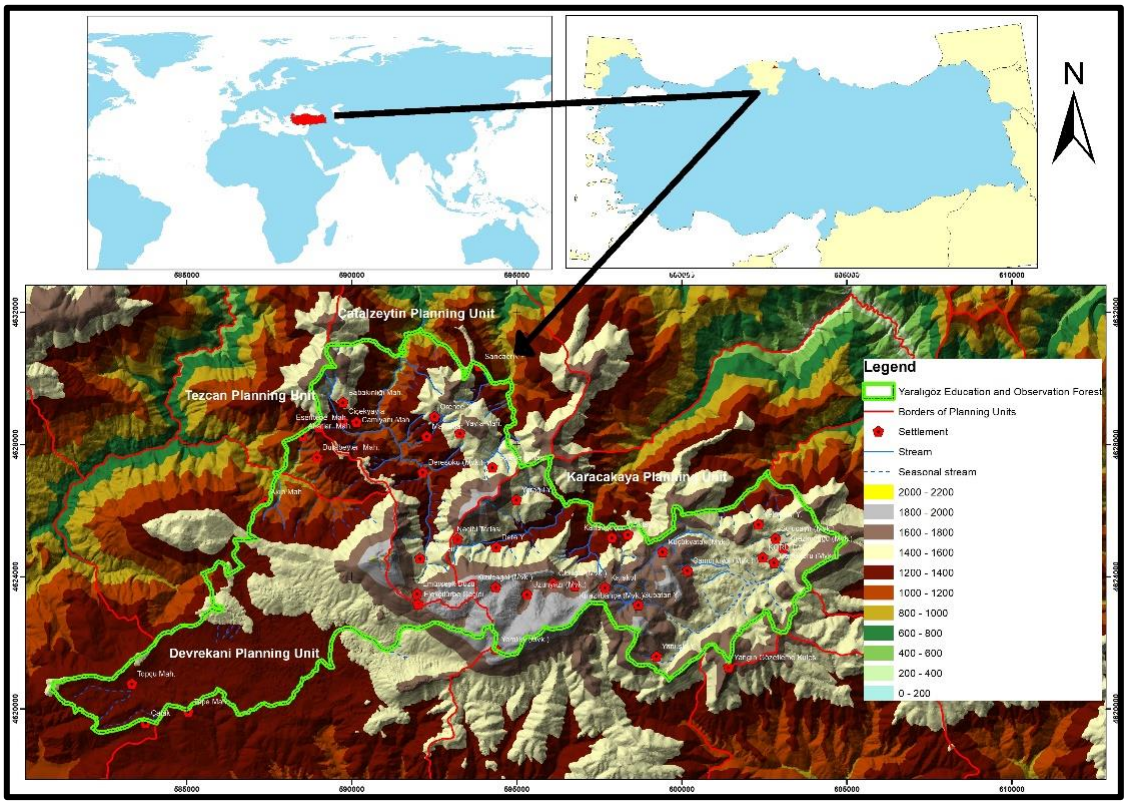

Figure 1. Location of the Yaralıgöz EOF

Yaralıgöz EOF is geomorphologically mountainous and steep land. As a geographical location, it is located at the foot of Yaralıgöz Mountain on the Devrekani-Bozkurt road route in the northeast of Devrekani OPB and ends at Koru Mountain in the east. Yaralıgöz EOF consists of a total area of 11.550,7 ha, the altitude varies between 773 m, and 2019 m. 9800 ha of this total area is composed of forest areas. In the study area, there are pure or mixed forests of *Abies nordmanniana* subsp. *equi-trojani*, *Fagus orientalis*, *Pinus sylvestris*, *Pinus nigra*, *Carpinus betulus* and *Quercus petraea* subsp. *iberica* species (Table 1). Common hornbeam dominated young forest is found southern part of the Yaralıgöz Mountain at the Devrekani region. Sessile Oak forests are located in Devrekani and Şeyhşaban region, and Anatolian Black Pine forests are located in Devrekani and Tezcan region. Scots Pine forests spread on the eastern side of Yaralıgöz Mountain in the Karacakaya region with Juniperus. Oriental Beech and Kazdağı Fir forests have formed pure or mixed forests in the North-West-South direction of Yaralıgöz Mountain. The main streams in Yaralıgöz are Kabalaklı, Kayalıkoru, Üçgöller, Büyükçay, Görük, Süleyman Çayırı, Ark, Yanık Değirmen and Karasun. The main high points of the research area are; Türbekaya hill 2019 m, Dibekkorukayası 1860 m, Büyükyazı hill 1832 m, Koru mountain 1660 m. The research area is located in the square A5 of Kastamonu province according to the system of Davis (1965-85).

Table 1. Forest types in the Forest Planning Units

Forests	Devrekani	Karacakaya	Şeyhşaban	Tezcan	Total (Ha)
Beech	25.7	2.7	344.3	28.6	401.3 (5.1%)
Beech-Fir	291	244.8	599.9	79.1	1214.8 (15.4%)
Beech-Oak			36.5		36.5 (0.5%)
Oak	16.9		62.9	101.4	181.2 (2.3%)
Hornbeam dominated	461	2.5	1.1		464.6 (5.9%)
Fir	1264.9	1961.6	905	34.5	4166.0 (53%)
Scots Pine	127.2	832.8	202	44	1206.0 (15.3%)
Anatolian Black Pine	114.5			19.6	134.1 (1.7%)
Scots Pine-Beech			43.8	15.5	59.3 (0.8%)
Total (Ha)	2301.2	3044.4	2195.5	322.7	7863.8 (100%)

Plant Materials and Identification

The material of the study consists of plant samples obtained from field studies conducted between the years of 2011-2012. Plant samples were collected from the research area within the vegetation period in accordance with the plant collection rules. The location of the specimens collected during the field studies, the characteristics of the habitat, altitudes and collection dates were recorded. These plants were identified using the Flora of Turkey and the East Aegean Islands (Davis, 1965-85; Davis et al., 1988; Güner, Özhatay, Ekim & Başer, 2000). In addition, various plant guides (Bonnier, 1912-1934; Phillips, 1994; Tekin, 2007a; 2007b) and plant samples of Karadeniz Technical University, faculty of forest herbarium (KATO) were used. Scientific and Turkish names of plant taxa were checked according to Turkish Plant List (Güner et al., 2012). Upper taxonomic units of plant taxa was prepared according to Christenhusz, Zhang, & Schneider (2011a), for Pteridophyta; Christenhusz et al., (2011b) for Pinidae; and Angiosperm Phylogeny Group (APG) III (Stevens, 2001) for Magnoliidae.

Result and Discussion

After identification of plant specimens, 374 vascular plant taxa belonging to 71 families and 233 genera were found in Pteridophyta and Magnoliophyta (Pinidae and Magnoliidae) sections. Pteridophyta section was represented by 6 (1.6%) taxa, Pinidae subclass by 7 (1.9%), and Magnoliidae subclass by 361 (96.5%) species and subspecies. Yaralıgöz EOF is located in the transitional zone between the Euxine province of Euro-Siberian and Irano-Turanian floristic areas in terms of plant geography (Davis, Harper & Hedge, 1971). The phytogeographical region of 190 (50.57%) taxa in Yaralıgöz EOF was determined. The plant taxa classification in terms of phytogeographical regions was as follows: Euro-Siberian 105 (28.1%), Euxine 29 (7.7%), Euxine (mountain) 4 (1.1%), Hyrcano-Euxine 6 (1.6%), Irano-Turanian 24 (6.4%), and Mediterranean 22 (5.9%). The remaining 184 taxa (49.2%) were cosmopolitan, multiregional or unknown regions (Table 2). Similar results were reported in previous studies in the Blacksea region (Eminağaoğlu and Anşin, 2004; Palabaş Uzun and Anşin, 2006; Uzun and Terzioğlu, 2008). In addition, the proportional distribution of determined taxa according to phytogeographic regions was compared with other studies close to the research area (Table 3). After the comparison, although the data obtained from the point of phytogeographical region are similar to some studies (Kılınç, 1985a; Kurt, 1992; Korkmaz and Engin, 2001; Özbek, 2004; Karaburç, 2006; Özen, Özbek & Vural, 2013), it was found out that it is different from the existing other studies (Ketenoğlu and Güney, 1997; Kanoğlu, 2002; Baysal, 2008). The predominance of Euro-Siberian (consists of Euro-Siberian, Euxine, Euxine (mountain)) plant taxa is clearly prevailing in the research area. Additionally, Irano-Turanian (24 taxa-6.4%) and Mediterranean (22 taxa-5.9%) plants were observed.This situation arises from the

climate characteristics and location of the study area. The northernmost part of the study area is limited with the Blacksea. According to Yurdakulol, Demirörs & Yıldız, (2002) and Kanoğlu (2002), in the northern part of the area near the sea level (Abana-Çatalzeytin), there is maquis vegetation, which is one of the characteristic vegetation types of the Mediterranean floristic region. This influenced the spread of Mediterranean plants into Yaralıgöz EOF. Another factor is the characteristic climate of the area, which is in transition to the continental climate type in Devrekani, which is part to the south of the area. This situation has allowed the coexistence of *Pinus nigra* and Irano-Turanian elements.

Table 2. Numerical and proportional distributions of taxa according to phytogeographical regions

Phytogeographical region	Number of taxa	Rates (%)
Euro-Siberian	105	28.1
Euxine	29	7.7
Euxine (mt)	4	1.1
Hyrcano-Euxine	6	1.6
Irano-Turanian	24	6.4
Mediterranean	15	4
East Mediterranean	6	1.6
East Mediterranean (mt)	1	0.3
Others	184	49.2
Total	374	100

Table 4 shows the numerical and proportional distributions of the prominent taxa in terms of taxon richness from the 71 families determined in the research area. These families were compared with the studies conducted in the adjacent areas. According to the number of taxa from the families in the study area, Asteraceae family stands out. This situation can be explained by the fact that the Asteraceae is the richest family in terms of the number of taxa on earth, and the taxa have a wide ecological amplitude and long-distance distribution of their diaspores.

Table 3. Comparison of plant taxa in terms of phytogeographic region and endemism

Phytogeographic region and endemism	Present Study		Kanoğlu 2002 (Abana)		Özen et al. 2013 (Armutluçayır)		Özbek 2004 (Kurtgirmez)		Ketenoğlu and Güney 1997 (Batı Küre)		Karaburç 2006 (Oyrak)		Kurt 1992 (Köklüce)		Baysal 2008 (Çangal)		Korkmaz and Engin 2001 (Boyabat)		Kılınç 1985a (Devrez)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Euro-Siberian	144	38,7	118	32,1	103	37,2	136	31,6	259	41,8	38	14,6	82	33,3	230	30	172	16,9	202	23,8
Irano-Turanian	24	6,4	2	0,5	6	2,2	23	5,3	50	8	33	13	26	10,6	46	6	115	11,3	140	16,5
Mediterranean	22	5,9	34	9,2	3	1,1	16	3,7	88	14,4	25	9,6	16	6,5	48	6,2	99	9,7	80	9,5
Endemic	23	6,4	5	1,4	9	3,2	34	7,9	44	7,2	23	8,8	35	14,2	56	7,3	106	10,4	16	2
Total	374		371		277		431		613		260		246		769		1016		850	

Table 4. Comparison of the families containing the most taxa in previous studies conducted in nearby areas.

Families	Present Study		Kanoğlu 2002 (Abana)		Özen et al. 2013 (Armutluçayır)		Özbek 2004 (Kurtgirmez)		Ketenoğlu and Güney 1997 (Batı Küre)		Özen and Kılınç 1995 (Alaçam-Gerze)		Baysal 2008 (Çangal)		Karaburç 2006 (Oyrak)		Kurt 1992 (Köklüce)	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Asteraceae	45	12.1	40	10.8	35	12.6	28	9.8	60	9.7	72	10.4	92	11.9	31	12	26	10.7
Lamiaceae	35	9.3	26	7	20	7.2	18	6.3	38	6.1	40	5.8	57	7.4	25	10	23	9.5
Rosaceae	27	7.2	18	4.9	20	7.2	17	5.9	27	4.3	24	4.5	34	4.4	13	5	17	7
Fabaceae	27	7.2	27	7.3	17	6.1	19	6.6	63	10.2	68	9.9	59	7.7	23	9	28	11.4
Poaceae	13	3.5	11	3	20	7.2	15	5.2	31	5	49	7.1	28	3.6	10	4	16	6.6
Orchidaceae	12	3.2	10	2.7	2	0.5	6	1.4	14	2.3	17	2.5	17	2.2	3	1.2	8	3.3
Caryophyllaceae	11	2.9	7	1.9	5	1.3	12	2.9	24	3.8	23	3.3	26	3.4	9	3.5	9	3.7
Plantaginaceae	11	2.9	2	0.5	1	0.3	1	0.2	2	0.3	4	0.6	2	0.3	1	0.4	1	0.4
Boraginaceae	10	2.7	7	1.9	9	2.4	11	3.8	20	3.3	19	2.7	24	3.1	10	4	5	2.1
Brassicaceae	8	2.1	10	2.7	15	4	19	6.6	28	4.6	22	3.9	41	5.3	15	6	5	2.1
Total	374		371		277		431		613		696		769		260		246	

Of the plants identified in the Yaralıgöz area, 23 were endemic (14%) and the endemism rate was 6.4% (Table 5). This rate is considerably lower than the national average. This low endemism ratio is parallel with the fact that the study area is located in the European-Siberian floristic region (Avcı, 2005). With this study, new distribution areas were determined for two plant taxa. First takson is *Acer hyrcanum* subsp. *keckianum*, which is endemic to Turkey. According to flora of Turkey, the distribution areas of this woody species were B1 Balıkesir, B2 Kütahya and B3 Afyon regions (Yaltırık, 1967). With this study, the first record of this woody species was made for the A5 Kastamonu province. The other plant species is *Picea abies*, which generally used as ornamental tree in our country. This tree species has found in a forest standbecause of accidental use of individuals belonging to *Picea abies* in a *Pinus sylvestris* afforestation study carried out around Koru Mountain about 30 years ago.

Table 5. Endemic and rare plants of the Yaralıgöz EOF

Number	Taxon	Endemic/Rare	IUCN Category
1	*Erodium birandianum*	Endemic	EN
2	*Lilium martagon*	Rare	VU
3	*Tragopogon dshimilensis*	Endemic	VU
4	*Crocus speciosus* subsp. *ilgazensis*	Endemic	NT
5	*Sempervivum gilliani*	Endemic	NT
6	*Abies nordmanniana* subsp. *equi-trojani*	Endemic	LC
7	*Acer hyrcanum* subsp. *keckianum*	Endemic	LC
8	*Astragalus densifolius* subsp. *amasiensis*	Endemic	LC
9	*Asyneuma limonifolium* subsp. *pestalozzae*	Endemic	LC
10	*Centaurea urvillei* subsp. *stepposa*	Endemic	LC
11	*Cyanus reuterianus* var. *phrygia*	Endemic	LC
12	*Dianthus leucophaeus*	Endemic	LC
13	*Euonymus latifolius* subsp. *cauconis*	Endemic	LC
14	*Helichrysum arenarium* subsp. *aucheri*	Endemic	LC
15	*Linum olympicum*	Endemic	LC
16	*Lonicera orientalis*	Endemic	LC
17	*Onosma bornmuelleri*	Endemic	LC
18	*Onosma isauricum*	Endemic	LC
19	*Salvia cyanescens*	Endemic	LC
20	*Sideritis germanicopolitana* subsp. *germanicopolitana*	Endemic	LC
21	*Stachys setifera* subsp. *lycia*	Endemic	LC
22	*Trifolium elongatum*	Endemic	LC
23	*Veronica multifida*	Endemic	LC
24	*Vicia freyniana*	Endemic	LC

The life forms of plant taxa were determined according to Raunkiaer (1934). The distribution of plant species respect to life forms is as follows; Hemicryptophytes 190 (50.7%), Phanerophytes 59 (15.7%), Cryptophytes 56 (14.9%), Therophytes 43 (11.7%), Chamaephytes 24 (6.4%) and Vascular Parasite 2 (0.5%). The dominance of Hemicryptophytes indicates a cold, humid and semi-humid climate in the study area (Raunkiaer, 1934). A similar pattern was found in the Tosya and Devrez regions

(Kılınç, 1985b). There is an increase in the number of phanerophytes and cryptophytes with the effect of the phytogeographic region and altitude in the study area.(Naqinezhad, Zare-Maivan & Gholizadeh, 2015; Cain, 1950). The fact that the Phanerophyte plant taxa in the study area is 15.7% indicates that Yaralıgöz region is very rich in woody vegetation. This result corresponds to the woody species richness criterion, which is one of the reasons, for the creation of the Yaralıgöz EOF.. Eminağaoğlu and Akyıldırım (2015), in their study on plant richness of Artvin province, have mentioned the importance of woody species in terms of botanic tourism. It is possible to see very different forest ecosystems formed by woody species. While most of these forest ecosystems are formed by *Abies nordmanniana* subsp. *equi-trojani*, *Fagus orientalis* and *Pinus sylvestris*, there are forest communities formed by *Pinus nigra*, *Quercus petraea* subsp. *iberica* and *Carpinus betulus*. Many woody species, which are of great importance in terms of both wildlife and ecosystem balance, are able to regenerate naturally. *Corylus colurna*, *Taxus baccata*, *Rhododendron luteum*, *Laurocerasus officinalis*, *Rosa canina*, *Sorbus aucuparia*, *Berberis vulgaris*, *Mespilus germanica*, *Rubus idaeus*, *Salix caprea*, *Populus tremula*, *Juniperus communis*, *Juniperus oxycedrus* are some of these species. In addition, this situation provides different phenotypic aspect during different seasons and attracts the interest of nature lovers. Botanic tourism is considered to serve the special biological interests of individual tourists and groups (Trauer, 2006). Irmak and Yılmaz (2011) identified the priorities for the botanic tourism. Finally, special interest groups were categorized according to the participants' answers. Aromatic plants are the first preference in this order, followed by geophytes, endemic, woody and medicinal plants. There is special demand from these special interest groups, which have established various associations focusing on Cyclamens, orchids, medicinal and aromatic plants, dendrology, succulents(Eminağaoğlu and Akyıldırım, 2015). Yaralıgöz EOF has a significant potential harbouring 87 medicinal and aromatic plants (Karaköse, 2015) including *Alchemilla mollis*, *Hedera helix*, *Hypericum perforatum*, *Laurocerasus officinalis*, *Rubus hirtus*, *Rubus ideaus*, *Rosa canina*, *Thymus sipyleus*, *Urtica dioica* and *Trachystemon orientalis*. Kastamonu and the surrounding areas are important sahlep-tuber production areas (Yaman and Akyıldız, 2008). As mentioned in the life forms section of plant species, the number of geophytes is high. Plant species belonging to *Dactylorhiza*, *Orchid*, *Anacamptis*, *Colchicum*, *Fritillaria*, *Lilium*, *Crocus*, *Allium*, *Sedum*, *Sempervivium*, which are distributed naturally in Yaralıgöz EOF, meet the demands of these interest groups. Another important issue in botanic tourism is the appropriate excursion time and route for interest groups (Aklıbaşında, Bulut & Külekçi, 2012). For Yaralıgöz region, it was found out that the optimum excursion time was between May and July. During this period, it is possible to see most plant species except some special plants (flowering plants at spring and autumn). The Kastamonu FRD installed a suitable the excursion route. It starts from Emürseyit, which is close to the summit of Yaralıgöz Mountain, and reaches Koru Mountain in the east. Along the walking route, it is possible to see pure or mixed forests formed by *Pinus sylvestris*, *Fagus orientalis* and *Abies nordmanniana* species. Additionally, there are many medical and aromatic, endemic, geophyte and woody plants to be seen. This excursion route also includes a locality for the *Erodium birandianum*, which is endemic to Turkey.

Figure 2. Yaralıgöz Mountain (a) and three remarkable plant taxa; b) *Erodium birandianum,* c) *Lilium martagon,* d) *Abies nordmanniana* subsp. *equi-trojani*, ;

Conclusions

The Western Black Sea Region has a rich woody flora due to its various vegetation types (forest, riparian, wetland, alpine-subalpin, pseudo maquis, maquis and sand dunes). This is reflected in the rich flora of Yaralıgöz Education and Observation Forest. This richness should be included in planning (ecotourism, forestry and wildlife). It is necessary to prioritize natural species in afforestation works and recognize their multifunctional ecosystem services.

Botanic tourism has the potential to contribute to the economic development of our country, regions and provinces. Without proper management, botanic tourism may have negative impacts such as careless behaviors, damages to the target plant species, habitat destruction, as well as bio-smuggling cases, whose awareness has increased in recent years. It is necessary to know the botanic and flora tourism preferences have both the economic contributions and the some negative impacts. For that reason, some preventive measures need to be taken by Kastamonu FRD for sustainable management in Yaralıgöz EOF.

Vascular Plants to be seen in terms of botanic tourism in the Yaralıgöz EOF.;

Pteridophyta Division

Polypodiidae (Fern Subclass)

1. Dennstaedtiaceae

1. *Pteridium aquilinum* (L.) Kuhn. –(Kartal Eğreltisi), A5, KATO: 19691; C.

2. Cystopteridaceae

2. *Cystopteris fragilis* (L.) Bernh. –(Gevrek Eğrelti), A5, KATO: 19692; C.

3. Aspleniaceae

3. *Asplenium trichomanes* L. –(Saçakotu), A5, KATO: 19693; C.

4. Dryopteridaceae

4. *Dryopteris affinis* (Lowe) Fraser-Jenkins subsp. *borreri* (Newm.) Fraser-Jenkins –(Geyik Piluncu), A5, KATO: 19694; C.

5. *D. filix-mas* (L.) Schott. –(Erkek Eğrelti), A5, KATO: 19695; C.

6. *Polystichum lonchitis* (L.) Roth –(Uzun Pilunç), A5, KATO: 19696; C.

Magnoliophyta Division

Pinidae (Pine subclass)

5. Pinaceae

7. *Abies nordmanniana* (Stev.) Spach subsp. *equi-trojani* (Asc. & Sint. ex Boiss.) Coode & Cullen −(Kazdağı Göknarı), A5: KATO: 19697; Eux., End., Ph.

8. *Picea abies* (L.) Karst. –(Avrupa Ladini), A5, KATO: 19698; Ph.

9. *Pinus nigra* J. F. Arnold subsp. *pallasiana* (Lamb.) Holmboe var. *pallasiana* –(Karaçam), A5, KATO: 19699; Ph.

10. *P. sylvestris* L. var. *hamata* Steven –(Sarıçam), A5, KATO: 19700; Euro-Sib., Ph.

6. Cupressaceae

11. *Juniperus communis* L. var. *saxatilis* Pall. –(Adi Ardıç), A5, KATO: 19701; Ph.

12. *J. oxycedrus* L. subsp. *oxycedrus* –(Katran Ardıcı), A5, KATO: 19702; Ph.

7. Taxaceae

13. *Taxus baccata* L. –(Adi Porsuk), A5, KATO: 19703; Ph.

Magnoliidae (Magnolia subclass)

8. Araceae Juss.

14. *Arum elongatum* Steven –(Yılancücüğü), A5, KATO: 19704; C.

9. Colchicaceae DC.

15. *Colchicum speciosum* Steven –(Şepart), A5, KATO: 19705; Eux., C.

16. *C. umbrosum* Steven –(Şaşortkovan), A5, KATO: 19706; Eux., C.

10. Liliaceae Juss.

17. *Fritillaria pinardii* Boiss. –(Mahçup Lale), A5, KATO: 19707; Ir.-Tur., C.

18. *Gagea villosa* (Bieb.) Duby var. *villosa* –(Tüylü Yıldız), A5, KATO: 19708; Medit., C.

19. *Lilium martagon* L. –(Sultan Zambağı), A5, KATO: 19709; Euro.-Sib., Rare, C.

12. Orchidaceae Juss.

20. *Anacamptis pyramidalis* (L.) Rich. –(Sivri Salep), A5, KATO: 19710; C.

21. *Cephalanthera damasonium* (Mill.) Druce –(Orman Kuşcuğu), A5, KATO: 19711; Euro.-Sib., C.

22. *Dactylorhiza romana* (Seb.) Soò subsp. *romana* –(Elçik), A5, KATO: 19712; Medit., C.

23. *D. urvilleana* (Steudel) Baumann & Künkele subsp. *urvilleana*–(Balkaymak), A5, KATO: 19713; Eux., C.

24. *Epipactis helleborine* (L.) Crantz subsp. *helleborine* –(Bindallıçiçeği), A5, KATO: 19714; C.
25. *Limodorum abortivum* (L.) Sw. var. *abortivum* –(Saçuzatan), A5, KATO: 19715; C.
26. *Orchis anatolica* Boiss. –(Anadolu Orkidesi), A5, KATO: 19716; Medit., C.
27. *O. morio* L. subsp. *morio* –(Gelincik Salebi), A5, KATO: 19717; Medit., C.
28. *O. pallens* L. –(Solgun Salep), A5, KATO: 19718; Euro.-Sib., C.
29. *O. purpurea* Hudson subsp. *purpurea* –(Hasancık), A5, KATO: 19719; Euro.-Sib., C.
30. *O. simia* Lam. –(Salep Püskülü), A5, KATO: 19720; Medit., C.
31. *Serapias orientalis* (Greuter) H.Baumann & Künkele subsp. *orientalis*–(Dillikulak), A5, KATO: 19721; E. Medit., C.

13. Iridaceae Juss.

32. *Crocus speciosus* Bieb. subsp. *ilgazensis* Mathew –(Ilgaz Çiğdemi), A5, KATO: 19722; Euro.-Sib., End., C.
33. *Allium carinatum* L. subsp. *carinatum* –(Sırtlı Körmen), A5, KATO: 19723; C.
34. *A. scorodoprasum* L. subsp. *jajlae* (Vved.) Stearn –(Deli Pırasa), A5, KATO: 19724; Eux., C.
35. *A. scorodoprasum* L. subsp. *rotundum* (L.) Stearn –(Deli Pırasa), A5, KATO: 19725; Eux, C.
36. *A. pseudoflavum* Steven –(Küllü Soğan), A5, KATO: 19726; Ir.-Tur., C.
37. *A. rupestre* Steven –(Taş Körmeni), A5, KATO: 19727; Eux., C.

14. Asparagaceae Juss.

38. *Muscari armeniacum* Leichtlin ex Baker –(Gavurbaşı), A5, KATO: 19728; C.
39. *M. comosum* (L.) Mill. –(Morbaş), A5, KATO: 19729; Medit., C.
40. *Ornithogalum oligophyllum* E. D. Clarke –(Kurt Soğanı), A5, KATO: 19730; C.
41. *Polygonatum multiflorum* Desf. –(Boğumluca), A5, KATO: 19731; Eux., C.
42. *Scilla bifolia* L. –(Orman Sümbülü), A5, KATO: 19732; Medit., C.

15. Juncaceae Juss.

43. *Juncus articulatus* L. subsp. *articulatus* –(Camışotu), A5, KATO: 19733; C.
44. *J. inflexus* L. subsp. *inflexus* –(Sazak), A5, KATO: 19734; C.

16. Cyperaceae Juss.

45. *Blysmus compressus* (L.) Panz. ex Link subsp. *compressus* –(Yassı Hasırotu), A5, KATO: 19735; C.
46. *Carex flacca* Schreb subsp. *erythrostachys* (Hoppe) Holub –(Yanık Çayırsazı), A5, KATO: 19736; Medit., H.
47. *C. sylvatica* Huds. subsp. *sylvatica* –(Mera Sazı), A5, KATO: 19737; Euro.-Sib., H.
48. *Eleocharis quinqueflora* (Hartmann) O. Schwarz –(Seyreksaz), A5, KATO: 19738; C.

17. Poaceae Barnhart

49. *Agrostis capillaris* L. var. *capillaris* –(Karahasanotu), A5, KATO: 19739; Euro.-Sib., H.
50. *Avena fatua* L. var. *fatua* –(Deli Yulaf), A5, KATO: 19740; Th.
51. *Briza media* L. –(Zembilotu), A5, KATO: 19741; Th.
52. *Bromus tomentellus* Boiss. –(Bozkır Bromu), A5, KATO: 19742; Ir.-Tur., Th.
53. *Dactylis glomerata* L. subsp. *glomerata* –(Domuz Ayrığı), A5, KATO: 19743; Euro.-Sib., H.
54. *Festuca drymeja* Mertens & Koch –(Çalı Yumağı), A5, KATO: 19744; Euro.-Sib., H.
55. *Hordeum bulbosum* L. –(Boncuk Arpa), A5, KATO: 19745; H.
56. *Lolium perenne* L. –(Çim), A5, KATO: 19746; Euro.-Sib., H.
57. *Milium vernale* M. Bieb. subsp. *vernale* –(Narin Darı), A5, KATO: 19747; Medit., Th.
58. *Phleum exaratum* Hochst. ex Griseb. –(Meşe İtkuyruğu), A5, KATO: 19748; Th.
59. *Poa pratensis* L. –(Çayır Salkımotu), A5, KATO: 19749; H.
60. *P. trivialis* L. –(Kaba Salkımotu), A5, KATO: 19750; H.
61. *Stipa lessingiana* Trin. & Rupr. –(Gevşek Sorguçotu), A5, KATO: 19751; H.

18. Papaveraceae Juss.

62. *Corydalis cava* (L.) Schw. & Körte subsp. *cava* –(Çayır kazgagası), A5, KATO: 19752; C.
63. *Papaver dubium* L. subsp. *dubium* –(Köpekyağı), A5, KATO: 19753; Th.
64. *P. rhoeas* L. –(Gelincik), A5, KATO: 19754; Th.

19. Berberidaceae Juss.

65. *Berberis crataegina* DC. –(Karamuk), A5, KATO: 19755; Ir.-Tur., Ph.

20. Ranunculaceae Juss.

66. *Clematis vitalba* L. –(Ak asma), A5, KATO: 19756; Ch.
67. *Helleborus orientalis* Lam. –(Noel gülü), A5, KATO: 19757; Eux., H.
68. *Ranunculus brutius* Ten. –(Buladan otu), A5, KATO: 19758; Euro.-Sib., C.
69. *R. illyricus* L. subsp. *illyricus* –(Gümüş düğünçiçeği), A5, KATO: 19759; C.
70. *R. repens* L. –(Tiktakdana), A5, KATO: 19760; H.

21. Paeoniaceae Raf.

71. *Paeonia peregrina* Mill. –(Bocur), A5, KATO: 19761; H.

22. Crassulaceae J. St.-Hil.

72. *Phedimus stoloniferus* (S.G.Gmel.) Hart –(Pisikulağı), A5, KATO: 19762; Hyr.-Eux., Ch.
73. *Sedum acre* L. subsp. *acre* –(Acı Damkoruğu), A5, KATO: 19763; Ch.
74. *S. pallidum* Bieb. –(Koyunörmece), A5, KATO: 19764; Ch.
75. *Sempervivum gillianiae* Muirhead –(Arzuotu), A5, KATO: 19765; Eux. (mt), End., Ch.

23. Saxifragaceae Juss.

76. *Saxifraga cymbalaria* L. –(Sarı Taşkıran), A5, KATO: 19766; Th.
77. *S. rotundifolia* L. subsp. *rotundifolia* –(Benli Taşkıran), A5, KATO: 19767; Euro.-Sib., H.

24. Santalaceae R. Br.

78. *Thesium arvense* Horv. –(Tez Güvelek), A5, KATO: 19768; Euro.-Sib., H.
79. *Viscum album* L. subsp. *album* –(Ökseotu), A5, KATO: 19769; VP.

25. Polygonaceae Juss.

80. *Polygonum lapathifolium* L. –(Tirşon), A5, KATO: 19770; Th.
81. *Rumex obtusifolius* L. subsp. *subalpinus* (Schur) Celak –(Kökükızıl), A5, KATO: 19771; H.
82. *R. tuberosus* L. subsp. *horizontalis* (Koch.) Rech. –(Kömeturşusu), A5, KATO: 19772; C.

26. Caryophyllaceae Juss.

83. *Cerastium chlorifolium* Fisch. & C.A.Mey. –(Parlak Boynuzotu), A5, KATO: 19773; Th.
84. *Dianthus calocephalus* Boiss. –(Güzel Karanfil), A5, KATO: 19774; Ch.
85. *D. leucophaeus* Sm. –(Hoş Karanfil), A5, KATO: 19775; End., Ch.
86. *Minuartia juniperina* (L.) Marie & Petitm. –(Hanım Şiltesi), A5, KATO: 19776; Ch.
87. *Moenchia mantica* (L.) Bartl. –(Dördüz otu), A5, KATO: 19777; Th.
88. *Silene compacta* Fisch. ex Hornem. –(Kanlıbasıra Otu), A5, KATO: 19778; H.
89. *S. dichotoma* subsp. *racemosa* (Otth) Graebn. & P.Graebn. –(Salkım Nakıl), A5, KATO: 19779; H.
90. *S. italica* (L.) Pers. subsp. *italica* –(Yuğuş Yüreği), A5, KATO: 19780; Medit., H.
91. *S. latifolia* Poir. subsp. *eriocalycinae* (Boiss.) Greuter & Burdet –(Gıcıme), A5, KATO: 19781; H.
92. *S. vulgaris* (Moench.) Garcke var. *vulgaris* –(Ecibücü), A5, KATO: 19782; H.
93. *Stelleria media* (L.) Vill. –(Kuşotu), A5, KATO: 19783; Th.

27. Celastraceae R. Br.

94. *Euonymus latifolius* (L.) Mill. subsp. *cauconis* Coode & Cullen –(İşyanotu), A5, KATO: 19784; Euro.-Sib., End., Ph.
95. *E. latifolius* (L.) Mill. subsp. *latifolius* –(İğağacı), A5, KATO: 19785; Euro.-Sib., Ph.

28. Oxalidaceae R. Br.

96. *Oxalis acetosella* L. –(Ekşiyonca), A5, KATO: 19786; H.

29. Euphorbiaceae Juss.

97. *Euphorbia amygdaloides* L. var. *amygdaloides* –(Zerana), A5, KATO: 19787; Euro.-Sib., H.
98. *E. macroclada* Boiss. –(Neblul), A5, KATO: 19788; Ir.-Tur., H.
99. *E. seguieriana* Necker subsp. *seguieriana* –(Tasmaotu), A5, KATO: 19789; Ch.
100. *E. stricta* L. –(Katı Sütleğen), A5, KATO: 19790; Euro.-Sib., Th.
101. *Mercurialis perennis* L. –(Köpek Marulu), A5, KATO: 19791; Euro.-Sib., H.

30. Hypericaceae Juss.

102. *Hypericum bithynicum* Boiss. –(Uludağ Koyunkıranı), A5, KATO: 19792; Eux., H.
103. *H. montbretii* Spach –(Çay Kantaronu), A5, KATO: 19793; H.
104. *H. orientale* L. –(Sandık Çiçeği), A5, KATO: 19794; H.
105. *H. perforatum* L. subsp. *veronense* (Schrank) H. Linb. –(Kantaron), A5, KATO: 19795; H.

31. Linaceae DC. ex Perleb

106. *Linum austriacum* L. subsp. *glaucescens* (B) Davis –(Puslu Zeyrek), A5, KATO: 19796; H.
107. *L. olympicum* Boiss. –(Uludağ Keteni), A5, KATO: 19797; End., H.
108. *L. usitatissimum* L. –(Keten), A5, KATO: 19798; Th.

32. Salicaceae Mirb.

109. *Salix caprea* L. –(Keçi Söğüdü), A5, KATO: 19799; Euro.-Sib., Ph.
110. *S. cinerea* L. var. *cinerea* –(Boz Söğüt), A5, KATO: 19800; Euro.-Sib., Ph.
111. *S. elaeagnos* Scop. –(İğde Söğüdü), A5, KATO: 19801; Euro.-Sib., Ph.
112. *Populus tremula* L. –(Titrek Kavak), A5, KATO: 19802; Euro.-Sib., Ph.

33. Violaceae Batsch

113. *Viola kitaibeliana* Roem. & Schult. –(Yabani Menekşe), A5, KATO: 19803; Th.
114. *V. sieheana* Becker –(Çayır Menekşesi), A5, KATO: 19804; Th.

34. Fabaceae Lindl.

115. *Anthyllis vulneraria* L. subsp. *boissieri* (Sag.) Bornm. –(Çobangülü), A5, KATO: 19805; H.
116. *Argyrolobium biebersteinii* Ball –(Acı Collik), A5, KATO: 19806; H.
117. *Astragalus angustifolius* Lam. subsp. *pungens* (Willd.) Hayek –(Kör Geven), A5, KATO: 19807; Ch.
118. *A. densifolius* Lam. subsp. *amasiensis* (Freyn) Aytaç & Ekim –(Amasya Gümüşü), A5, KATO: 19808; End., Ch.
119. *A. glycyphylloides* DC. –(Tatlı Geven) A5, KATO: 19809; Euro.-Sib., H.
120. *A. strigillosus* Bunge –(Sert Geven), A5, KATO: 19810; Ir.-Tur., H.
121. *Cytisus pygmaeus* Willd. –(Cüce Keçitırfılı), A5, KATO: 19811; Euro.-Sib., Ch.
122. *Dorycnium graecum* (L.) Ser. –(Ak Kaplanotu), A5, KATO: 19812; Eux., H.
123. *Genista januensis* Viv. subsp. *lydia* (Boiss.) Kit Tan & Ziel. –(Geyik Borcağı), A5, KATO: 19813; E. Medit., Ch.
124. *Lathyrus aureus* (Stev.) Brandza –(Koru Mürdümüğü), A5, KATO: 19814; Eux., H.
125. *L. laxiflorus* (Desf.) O.Kuntze subsp. *laxiflorus* –(Deli Burçak), A5, KATO: 19815; H.
126. *L. pratensis* L. –(Yılan Gürülü), A5, KATO: 19816; Euro.-Sib., H.
127. *Medicago falcata* L. –(Kart Yonca), A5, KATO: 19817; H.
128. *M. lupulina* L. –(Bitçikotu), A5, KATO: 19818; Ir.-Tur., Ch.
129. *M. orbicularis* (L.) Bart. –(Paralık), A5, KATO: 19819; Medit., Th.
130. *Melilotus officinalis* (L.) Desr. –(Kokulu Yonca), A5, KATO: 19820; Th.
131. *Onobrychis oxyodonta* Boiss. var. *armena* (Boiss. & Huet) Aktoklu –(Kır Korungası), A5, KATO: 19821; H.
132. *Robinia hispida* L. –(Kıllı Akasya), A5, KATO: 19822; Ph.
133. *Trifolium arvense* L. var. *arvense* –(Tavşan Ayağı), A5, KATO: 19823; Medit., Th.
134. *T. elongatum* Willd. –(Helva Üçgülü), A5, KATO: 19824; End., H.
135. *T. ochroleucum* Huds. –(Mızrak Üçgülü), A5, KATO: 19825; H.
136. *T. pratense* L. var. *pratense* –(Çayır Üçgülü), A5, KATO: 19826; H.
137. *T. repens* L. var. *repens* –(Ak Üçgül), A5, KATO: 19827; H.
138. *Vicia cracca* L. subsp. *tenuifolia* (Roth) Gau. –(Kır Fiği), A5, KATO: 19828; Euro.-Sib., H.
139. *V. crocea* (Desf.) B. Fedtsch. –(Safran Fiği), A5, KATO: 19829; Hyr.-Eux., H.
140. *V. freyniana* Bornm. –(Delifiğ), A5, KATO: 19830; Eux., End., H.
141. *V. sativa* L. subsp. *sativa* –(Fiğ), A5, KATO: 19831; Euro.-Sib., Th.

35. Polygalaceae Hoffmanns. & Link

142. *Polygala major* O. F. Mull –(Koca Sütotu), A5, KATO: 19832; Euro.-Sib., H.
143. *P. pruinosa* Boiss. subsp. *pruinosa* –(Puslu Sütotu), A5, KATO: 19833; Ch.

36. Rosaceae Juss.

144. *Agrimonia eupatoria* L. subsp. *asiatica* (Juz.) Skalicky –(Fıtıkotu), A5, KATO: 19834; C.
145. *Alchemilla caucasica* Buser –(Kaf Şebnemlisi), A5, KATO: 19835; Eux. (mt), C.
146. *A. mollis* (Buser) Rothm. –(Su Keltatı), A5, KATO: 19836; C.
147. *Amelanchier ovalis* Medik subsp. *ovalis* –(Kurtağacı), A5, KATO: 19837; E. Medit., Ph.
148. *Cerasus avium* (L.) Moench –(Kiraz), A5, KATO: 19838; Ph.

149. *Cotoneaster nummularius* Fisch. & C. A. Mey –(Dağ Muşmulası), A5, KATO: 19839; Ph.
150. *Crataegus monogyna* Jacq. var. *monogyna* –(Alıç), A5, KATO: 19840; Ph.
151. *C. orientalis* Pallas ex Bieb. var. *orientalis* –(Alıç), A5, KATO: 19841; Ph.
152. *Filipendula vulgaris* Moench –(Çayırmelikesi), A5, KATO: 19842; Euro.-Sib., H.
153. *Fragaria vesca* L. –(Dağ Çileği), A5, KATO: 19843; H.
154. *Geum urbanum* L. –(Meryemotu), A5, KATO: 19844; Euro.-Sib., H.
155. *Laurocerasus officinalis* Roemer –(Karayemiş), A5, KATO: 19845; Ph.
156. *Malus sylvestris* Mill. subsp. *orientalis* (A. Uglitzkich) Browicz var. *orientalis* –(Yaban Elması), A5, KATO: 19846; Ph.
157. *Mespilus germanica* L. –(Muşmula), A5, KATO: 19847; Eux., Ph.
158. *Potentilla recta* L. –(Su Parmakotu), A5, KATO: 19848; H.
159. *Prunus spinosa* L. –(Çakal Eriği), A5, KATO: 19849; Euro.-Sib., Ph.
160. *Pyracantha coccinea* Roem. –(Ateşdikeni), A5, KATO: 19850; Ph.
161. *Pyrus communis* L. subsp. *communis* –(Bey Armudu), A5, KATO: 19851; Ph.
162. *P. elaeagnifolia* Pallas subsp. *elaeagnifolia* –(Ahlat), A5, KATO: 19852; Ph.
163. *Rosa boissieri* Crep. –(Has Gül), A5, KATO: 19853; Ph.
164. *R. canina* L. –(Kuşburnu), A5, KATO: 19854; Ph.
165. *Rubus hirtus* Waldst. & Kit. –(Ahududu), A5, KATO: 19855; Euro.-Sib., Ch.
166. *R. idaeus* L. –(Tüntürük), A5, KATO: 19856; Ch.
167. *Sanguisorba minor* L. subsp. *balearica* (Bourg. ex Nyman) Muñoz Garm. & C.Navarro –(Kelekayağı), A5, KATO: 19857; H.
168. *Sorbus aucuparia* L. –(Kuş Üvezi), A5, KATO: 19858; Euro.-Sib., Ph.
169. *S. torminalis* (L.) Crantz var. *torminalis* –(Pitlicen), A5, KATO: 19859; Euro.-Sib., Ph.
170. *S. umbellata* (Desf.) Fritsch –(Geyik Elması), A5, KATO: 19860; Ph.

37. Ulmaceae Mirb.

171. *Ulmus glabra* Hudson –(Dağ Karaağacı), A5, KATO: 19861; Euro.-Sib., Ph.

38. Urticaceae Juss.

172. *Urtica dioica* L. subsp. *dioica* –(Isırgan Otu), A5, KATO: 19862; Euro.-Sib., H.

39. Betulaceae Gray

173. *Alnus glutinosa* (L.) Gaertner–(Adi Kızılağaç), A5, KATO: 19863; Euro.-Sib., Ph.
174. *Betula pendula* Roth –(Salkım Huş), A5, KATO: 19864; Ph.
175. *Carpinus betulus* L. –(Adi Gürgen), A5, KATO: 19865; Euro.-Sib., Ph.
176. *Corylus avellana* L. var. *avellana* –(Adi Fındık), A5, KATO: 19866; Euro.-Sib., Ph.
177. *C. colurna* L. –(Türk Fındığı), A5, KATO: 20568; Euro.-Sib., Ph.

40. Fagaceae Dumort.

178. *Fagus orientalis* Lipsky –(Doğu Kayını), A5, KATO: 19867; Euro.-Sib., Ph.
179. *Quercus infectoria* Olivier subsp. *veneris* (A.Kern) Meikle –(Mazı Meşesi), A5, KATO: 19868; Ph.
180. *Q. petraea* (Mattuschka) Liebl. subsp. *iberica* (Steven ex Bieb) Krassiln. –(Sapsız Meşe), A5, KATO: 19869; Ph.
181. *Q. pubescens* Willd. subsp. *pubescens* –(Tüylü Meşe), A5, KATO: 19870; Ph.

41. Geraniaceae Juss.

182. *Erodium birandianum* Ilars. & Yurdak. –(Paşa İğneliği), A5, KATO: 19871; Eux., End., Ch.
183. *E. cicutarium* (L.) L´Herit. subsp. *cicutarium* –(İğnelik), A5, KATO: 19872; Th.
184. *Geranium asphodeloides* Burm. fil.–(Yaramerhemi), A5, KATO: 19873; Euro.-Sib., H.
185. *G. pyrenaicum* Burm. fil. –(Gelinçarşafı), A5, KATO: 19874; C.
186. *G. robertianum* L. –(Dağ Itırı), A5, KATO: 19875; Th.
187. *G. tuberosum* L. –(Çakmuz), A5, KATO: 19876; C.

42. Lythraceae J. St.-Hil.

188. *Lythrum salicaria* L. –(Hevhulma), A5, KATO: 19877; Euro.-Sib., H.

43. Onagraceae Juss.

189. *Circaea lutetiana* L. –(Kankurutan), A5, KATO: 19878; C.
190. *Epilobium angustifolium* L. –(Yakıotu), A5, KATO: 19879; H.

191. *E. dodonaei* Vill. –(Çayırgülü), A5, KATO: 19880; Euro.-Sib., H.
192. *E. hirsutum* L. –(Hasan Hüseyin Çiçeği), A5, KATO: 19881; H.
193. *E. lanceolatum* Sebast. & Mauri –(Dilyakısı), A5, KATO: 19882; H.
194. *E. montanum* L. –(Dağ Yakısı), A5, KATO: 19883; Euro.-Sib., H.

44. Staphyleaceae Martinov

195. *Staphylea pinnata* L. –(Ağızlık Çalısı), A5, KATO: 19884; Ph.

45. Sapindaceae Juss.

196. *Acer campestre* L.–(Ova Akçaağacı), A5, KATO: 19885; Euro.-Sib., Ph.
197. *A. heldreichii* Orph. ex Boiss. subsp. *trautvetteri* (Medw.), A.E.Mur. –(Kafkas Akçaağacı), A5, KATO: 19886; Eux., Ph.
198. *A. hyrcanum* Fisch. & Mey. subsp. *keckianum* (Pax) Yalt. –(Kazdağı Akçaağacı), A5, KATO: 19887; End., Ph.

46. Malvaceae Juss.

199. *Malva alcea* L. –(Ebecik), A5, KATO: 19888; H.

47. Cistaceae Juss.

200. *Cistus laurifolius* L. –(Karağan), A5, KATO: 19889; Ph.
201. *Helianthemum nummularium* (L.) Mill.–(Güngülü), A5, KATO: 19890; H.

48. Thymelaeaceae Juss.

202. *Daphne oleoides* Schreb. subsp. oleoides –(Yabani Defne), A5, KATO: 19891; Ch.
203. *D. pontica* L. subsp. *pontica* –(Sırımağu), A5, KATO: 19892; Eux., Ph.

49. Brassicaceae Burnett

204. *Aubrieta canescens* (Boiss.) Bornm., A5, KATO: 19893; End., H.
205. *Cardamine bulbifera* (L.) Crantz –(Dişlikök), A5, KATO: 19894; Euro.-Sib., C.
206. *C. impatiens* L. var. *pectinata* (Pallas) Trautv. –(Taraklı Kodimotu), A5, KATO: 19895; Euro.-Sib., C.
207. *C. quinquefolia* (Bieb.) Schmalh. –(Hanımgömleği), A5, KATO: 19896; Euro.-Sib., C.
208. *Erysimum cuspidatum* (Bieb.) DC. –(Kuyruklu Zarife), A5, KATO: 19897; H.
209. *Hesperis matronalis* L. subsp. *matronalis* –(Akşamyıldızı), A5, KATO: 19898; H.
210. *Microthlaspi perfoliatum* (L.) F. K. Mey –(Giyle), A5, KATO: 19899; Th.
211. *Thlaspi orbiculatum* Stev. –(Koru Dağarcığı), A5, KATO: 19900; Th.

50. Resedaceae Martinov

212. *Reseda lutea* L. var. *lutea* –(Muhabbet Çiçeği), A5, KATO: 19901; H.

51. Cornaceae Bercht. & J. Presl.

213. *Cornus mas* L. –(Kızılcık), A5, KATO: 19902; Euro.-Sib., Ph.
214. *C. sanguinea* L. subsp. *australis* (C. A. Meyer) Jav. –(Kansiğdiren), A5, KATO: 19903; Euro.-Sib., Ph.

52. Ericaceae Juss.

215. *Monotropa hypopithys* L. –(Sarıkuşyuvası), A5, KATO: 19904; C.
216. *Pyrola media* Sw. –(Meşe Kekliküzüm), A5, KATO: 19905; Euro.-Sib., H.
217. *Rhododendron luteum* Sweet –(Sarı Çiçekli Ormangülü), A5, KATO: 19906; Eux., Ph.
218. *Vaccinium arctostaphylos* L. –(Likarpa), A5, KATO: 19907; Eux., Ph.

53. Primulaceae Batsch ex Borkh.

219. *Cyclamen coum* Mill. var. *coum* –(Yersomunu), A5, KATO: 19908; C.
220. *Lysimachia verticiliaris* Spreng. –(Hilal Kargaotu), A5, KATO: 19909; Hyr.-Eux., H.
221. *Primula acaulis* (L.) L. subsp. *acaulis* –(Çuha Çiçeği), A5, KATO: 19910; Euro.-Sib., H.

54. Apocynaceae Juss.

222. *Vincetoxicum fuscatum* Rchb. f. subsp. *fuscatum* –(Gavur Biberi), A5, KATO: 19911; H.

55. Gentianaceae Juss.

223. *Centaurium erythraea* Rafn –(Kırmızı Kantaron), A5, KATO: 19912; Euro.-Sib., H.
224. *Gentiana asclepiadea* L. –(Sütlü Güşad), A5, KATO: 19913; Euro.-Sib., H.
225. *G. septemfida* Pallas –(Yedi Gentiyan), A5, KATO: 19914; Hyr.-Eux., H.

56. Rubiaceae Juss.

226. *Asperula arvensis* L. –(Tarla belumotu), A5, KATO: 19915; Th.
227. *A. taurina* L. –(Küçük Fevve), A5, KATO: 19916; C.
228. *Cruciata taurica* (Pallas ex Willd.) Ehr. –(Kırım Güzeli), A5, KATO: 19917; Ir.-Tur., Th.
229. *Galium odoratum* (L.) Scop. –(Orman İplikçiği), A5, KATO: 19918; Euro.-Sib., H.
230. *G. paschale* Forsskal –(Gök İplikçik), A5, KATO: 19919; E. Medit., H.

231. *G. rotundifolium* L. –(Koru Yopurtotu), A5, KATO: 19920; Euro.-Sib., H.
232. *G. verum* L. subsp. *verum* –(Boyalık), A5, KATO: 19921; Euro.-Sib., H.

57. Lamiaceae Martinov

233. *Ajuga chamaepitys* (L.) Schr. subsp. *chia* (Schr.) Arcang. –(Acıgıcı), A5, KATO: 19922; H.
234. *A. orientalis* L. –(Dağmayasılı), A5, KATO: 19923; H.
235. *A. reptans* L. –(Meryemsaçı), A5, KATO: 19924; Euro.-Sib., H.
236. *Clinopodium acinos* (L.) Kuntze –(Kayrakçayı), A5, KATO: 19925; Euro.-Sib., H.
237. *C. grandiflorum* (L.) Kuntze –(Kaba Fesleğen), A5, KATO: 19926; Euro.-Sib., H.
238. *C. nepeta* (L.) Kuntze subsp. *glandulosum* (Req.) Gov. –(Sümüklü Fesleğen), A5, KATO: 19927; H.
239. *C. vulgare* L. subsp. *arundanum* (Boiss.) Nyman –(Yabani Fesleğen), A5, KATO: 19928; Euro.-Sib., H.
240. *Lamium album* L. subsp. *crinitum* (Montbret & Aucher ex Benth.) Mennema –(Kovanlık), A5, KATO: 19929; Eux. (mt), H.
241. *L. amplexicaule* L. var. *amplexicaule* –(Baltutan), A5, KATO: 19930; Euro.-Sib., Th.
242. *L. purpureum* L. var. *purpureum* –(Ballıbaba), A5, KATO: 19931; Euro.-Sib., Th.
243. *Marrubium astracanicum* Jacq. subsp. *astracanicum* –(Mor Yayotu), A5, KATO: 19932; H.
244. *M. parviflorum* Fisch. & Mey. subsp. *oligodon* (Boiss.) Seybold –(Küllü Bozotu), A5, KATO: 19933; H.
245. *Mentha longifolia* (L.) Hudso subsp. *longifolia* –(Pünk), A5, KATO: 19934; H.
246. *Nepeta nuda* L. subsp. *albiflora* (Boiss.) Gams –(Karaküncü), A5, KATO: 19935; H.
247. *Origanum vulgare* L. subsp. *vulgare* –(Karakınık), A5, KATO: 19936; H.
248. *Prunella laciniata* (L.) L.–(Bodur Fesleğen), A5, KATO: 19937; Euro.-Sib., H.
249. *P. vulgaris* L. –(Gelinciklemeotu), A5, KATO: 19938; Euro.-Sib., H.
250. *Salvia aethiopis* –(Habeş Adaçayı), A5, KATO: 19939; H.
251. *S. cyanescens* Boiss. & Bal. –(Mor Galabor), A5, KATO: 19940; Ir.-Tur., End., H.
252. *S. forskahlei* L. –(Dolmayaprağı), A5, KATO: 19941; Eux., H.
253. *S. glutinosa* L. –(Oklu Şalba), A5, KATO: 19942; Hyr.-Eux., H.
254. *S. sclarea* L. –(Paskulak), A5, KATO: 19943; H.
255. *S. tomentosa* Miller –(Şalba), A5, KATO: 19944; Medit., Ch.
256. *S. verticillata* L. subsp. *verticillata* –(Dadırak), A5, KATO: 19945; Euro.-Sib., H.
257. *Scutellaria albida* L. subsp. *velenovskyi* (Rech.f.) Greuter & Burdet –(Benekli Kaside), A5, KATO: 19946; E. Medit., H.
258. *S. orientalis* L. subsp. *pinnatifida* J.R.Edm. –(Kırbaç Sırmı), A5, KATO: 19947; H.
259. *Sideritis germanicopolitana* Bornm. subsp. *germanicopolitana* –(Karakurbağa Çayı), A5, KATO: 19948; End., H.
260. *S. montana* L. subsp. *remota* (D'Urv.) P. W. Ball ex Heywood –(Mor Karaçay), A5, KATO: 19949; Medit., Th.
261. *Stachys annua* (L.) L. subsp. *annua* var. *annua* –(Hacıosman Otu), A5, KATO: 19950; Th.
262. *S. byzantina* C. Koch –(Boz Karabaş), A5, KATO: 19951; Euro.-Sib., H.
263. *S. setifera* C. A. Meyer subsp. *lycia* (Gand.) Bhattacharfee –(Zarif Deliçay), A5, KATO: 19952; Ir.-Tur., End., H.
264. *Teucrium chamaedrys* L.–(Kısa Mahmut), A5, KATO: 19953; Euro.-Sib., Ch.
265. *T. polium* L. subsp. *polium* –(Acı Yavşan), A5, KATO: 19954; H.
266. *Thymus sipyleus* Boiss. –(Sipil Kekiği), A5, KATO: 19955; Ch.
267. *Ziziphora persica* Bunge –(Kara Reyhan), A5, KATO: 19956; Ir.-Tur., Th.

58. Orobanchaceae Vent.

268. *Euphrasia pectinata* Ten. –(Gözotu), A5, KATO: 19957; Euro.-Sib., Th.
269. *Macrosyringion glutinosum* (M.Bieb.) Rothm. –(Sarı Gözotu), A5, KATO: 19958; Th.
270. *Melampyrum arvense* L. var. *arvense* –(İnekbuğdayı), A5, KATO: 19959; Euro.-Sib., Th.
271. *Orobanche elatior* Sutton –(Boylu Canavarotu), A5, KATO: 19960; VP.
272. *Pedicularis comosa* L. var. *sibthorpii* (Boi.) Boi. –(Hotozlu Bitotu), A5, KATO: 19961; H.

273. *Rhinanthus angustifolius* C.C.Gmelin subsp. *grandiflorus* (Wallr.) D.A. Webb. –(Horozotu), A5, KATO: 19962; Th.
274. *Rhynchocorys elephas* (L.) Griseb. –(Filburnu), A5, KATO: 19963; Euro.-Sib., H.

59. Plantaginaceae Juss.

275. *Digitalis ferruginea* L. subsp. *ferruginea* L. –(Arıkovanı), A5, KATO: 19964; Euro.-Sib., H.
276. *D. lamarckii* Ivanina –(Yüksükotu), A5, KATO: 19965; Ir.-Tur., H.
277. *Globularia trichosantha* Fisch. & Mey.–(Köse Yayılımı), A5, KATO: 19966; Ir.-Tur., H.
278. *Linaria corifolia* Desf. –(Tarla Nevruzotu), A5, KATO: 19967; Ir.-Tur., End., H.
279. *L. genistifolia* (L.) Miller–(Som Nevruzotu), A5, KATO: 19968; Euro.-Sib., H.
280. *Plantago lanceolata* L. –(Damarlıca), A5, KATO: 19969; H.
281. *P. major* L. subsp. *major* –(Sinirotu), A5, KATO: 19970; H.
282. *Veronica anagallis-aquatica* L. –(Sugedemesi), A5, KATO: 19971; H.
283. *V. chamaedrys* L. –(Cancan), A5, KATO: 19972; Euro.-Sib., Ch.
284. *V. multifida* L. –(Devesabunu), A5, KATO: 19973; Ir.-Tur., End., H.
285. *V. serpyllifolia* L. –(Güzelnane), A5, KATO: 19974; H.

60. Scrophulariaceae Juss.

286. *Scrophularia scopolii* Hoppe ex Pers. var. *scopolii* –(Elköpürten), A5, KATO: 19975; H.
287. *Verbascum eriocarpum* (Freyn & Sint.) Bornm. –(Gavur Sığırkuyruğu), A5, KATO: 19976; Eux., H.
288. *V. lasianthum* Boiss. ex Bentham –(Yünlü Sığırkuyruğu), A5, KATO: 19977; H.
289. *V. pyramidatum* Bieb. –(Arsız Sığırkuyruğu), A5, KATO: 19978; Hyr.-Eux., H.
290. *V. speciosum* Schrader –(Zelve), A5, KATO: 19979; H.
291. *V. thapsus* L. –(Burunca), A5, KATO: 19980; Euro.-Sib., H.

61. Oleaceae Hoffmanns. & Link

292. *Fraxinus angustifolia* Vahl. subsp. *angustifolia* –(Sivri Dişbudak), A5, KATO: 19981; Ph.
293. *Ligustrum vulgare* L. –(Kurtbağrı), A5, KATO: 19982; Euro.-Sib., Ph.

62. Convolvulaceae Juss.

294. *Convolvulus cantabrica* L. –(Çadırçiçeği), A5, KATO: 19983; H.

63. Solanaceae Juss.

295. *Atropa belladonna* L. –(Güzel Avratotu), A5, KATO: 19984; Euro.-Sib., H.

64. Boraginaceae Juss.

296. *Anchusa leptophylla* Roemer & Schultes–(Ballık), A5, KATO: 19985; H.
297. *Buglossoides arvensis* (L.) J.R.Johnst. subsp. *sibthorpiana* (Griseb.) R. Fern. –(Tarla Taşkeseni), A5, KATO: 19986; Th.
298. *Cerinthe minor* L. subsp. *auriculata* (Ten.) Domac –(Livarotu), A5, KATO: 19987; H.
299. *Cynoglossum officinale* L.–(Gözpıtrağı), A5, KATO: 19988; Euro.-Sib., H.
300. *Echium vulgare* L. subsp. *vulgare* –(Engerek Otu), A5, KATO: 19989; Euro.-Sib., H.
301. *Myosotis arvensis* (L.) Hill–(Kardeşboncuğu), A5, KATO: 19990; Euro.-Sib., Th.
302. *M. lithospermifolia* Hornem. –(Taş Boncukotu), A5, KATO: 19991; H.
303. *Onosma bornmuelleri* Hausskn. –(Amasya Şincarı), A5, KATO: 19992; Ir.-Tur., End., H.
304. *O. isaurica* Boiss. & Heldr. –(Kül Emcek), A5, KATO: 19993; Ir.-Tur., End., H.
305. *Trachystemon orientalis* (L.) G.Don –(Kaldirik), A5, KATO: 19994; Eux., C.

65. Aquifoliaceae Bercht. & J. Presl.

306. *Ilex colchica* Poj. –(Çoban Püskülü), A5, KATO: 19995; Eux., Ph.

66. Asteraceae Bercht. & J. Presl

307. *Achillea biserrata* Bieb. –(Aksırıkotu), A5, KATO: 19996; Eux., H.
308. *A. millefolium* L. subsp. *millefolium*–(Civanperçemi), A5, KATO: 19997; Euro.-Sib., H.
309. *Arctium minus* (Hill.) Bernh. –(Löşlek), A5, KATO: 19998; Euro.-Sib., H.
310. *Carduus nutans* L. subsp. *falcato-incurvus* P. H. Davis –(Eğri Eşekdikeni), A5, KATO: 19999; H.
311. *Centaurea solstitialis* L. subsp. *solstitialis* –(Çakır Dikeni), A5, KATO: 20000; Th.

312. *C. urvillei* DC. subsp. *stepposa* Wagen.–(Yer Kötürümü), A5, KATO: 20001; Ir.-Tur., H.
313. *Cichorium intybus* L. –(Hindiba), A5, KATO: 20002; H.
314. *Cirsium arvense* (L.) Scop. –(Köygöçüren), A5, KATO: 20003; H.
315. *C. hypoleucum* DC. –(Vişne Kangalı), A5, KATO: 20004; Eux., H.
316. *C. vulgare* (Savi) Ten. –(Yaygın Kangal), A5, KATO: 20005; H.
317. *Cyanus reuterianus* (Boiss.) Holub var. *phrygia* Boram.–(Kapele), A5, KATO: 20006; E. Medit., End., H.
318. *C. triumfettii* (All.) Dostál ex Á.Löve & D.Löve–(Deli Kapele), A5, KATO: 20007; H.
319. *Doronicum orientale* Hoffm. –(Kaplanotu), A5, KATO: 20008; H.
320. *Echinops microcephalus* SM. –(Papazkalpağı), A5, KATO: 20009; Medit., H.
321. *Erigeron acris* L. subsp. *pycnotrichus* (Vierh.) Grierson –(Yünlü Şifaotu), A5, KATO: 20010; Euro.-Sib., Th.
322. *Helichrysum arenarium* (L.) Moench subsp. *aucheri* (Boiss.) Davis & Kupicha –(Yayla Çiçeği), A5, KATO: 20011; Ir.-Tur., End., H.
323. *Hieracium pannosum* Boiss. –(Acıkanak), A5, KATO: 20012; E. Medit. (mt), H.
324. *Inula oculus-christi* L. –(Yol Otu), A5, KATO: 20013; Euro.-Sib., H.
325. *Jurinea consanguinea* DC. –(Geyikgöbeği), A5, KATO: 20014; H.
326. *Lactuca muralis* (L.) Gaertn. –(Divar Marulu), A5, KATO: 20015; Euro.-Sib., Th.
327. *L. serriola* L. –(Eşekhelvası), A5, KATO: 20016; Euro.-Sib., H.
328. *Lapsana communis* L. subsp. *intermedia* (Bieb.) Hayek–(Şebrek), A5, KATO: 20017; H.
329. *Leontodon asperrimus* (Willd.) Ball –(Aşyemliği), A5, KATO: 20018; Ir.-Tur., H.
330. *L. hispidus* L. subsp. *hispidus* –(Gulikazer), A5, KATO: 20019; Euro.-Sib., H.
331. *Petasites hybridus* (L.) Gaer, Me. & Schb. –(Kabalak), A5, KATO: 20020; Euro.-Sib., C.
332. *Pilosella hoppeana* (Schultes) C. H. & F. W. Schultz subsp. *testimonialis* (Naegli ex Peter) P.D.Sell & C.West –(Saplı Tırnakotu), A5, KATO: 20021; H.
333. *P. hoppeana* (Schultes) C. H. & F. W. Shultz subsp. *troika* (Zahn) Sell & West –(Er Tırnakotu), A5, KATO: 20022; H.
334. *Pulicaria dysenterica* subsp. *dysenterica* (L.) Bernh. –(Yaraotu), A5, KATO: 20023; H.
335. *Reichardia dichotoma* (Vahl) Freyn –(Karasakız), A5, KATO: 20024; Ir.-Tur., H.
336. *Senecio pseudo-orientalis* Schischkin –(Sarı Şiro), A5, KATO: 20025; Ir.-Tur., H.
337. *S. vernalis* Waldst. & Kit. –(Kanaryaotu), A5, KATO: 20026; Th.
338. *Solidago virgaurea* L. –(Altınbaşak Çiçeği), A5, KATO: 20027; Euro.-Sib., H.
339. *Sonchus asper* (L.) Hill subsp. *glaucescens* (Jord.) Ball. –(Gevirtlek), A5, KATO: 20028; H.
340. *Tanacetum poteriifolium* (Ledeb.) Grierson –(Dişlek Pireotu), A5, KATO: 20029; Eux., H.
341. *Taraxacum buttleri* Soest –(Karahindiba), A5, KATO: 20030; H.
342. *Telekia speciosa* (Schreber) Baumg. –(Puğre), A5, KATO: 20031; Euro.-Sib., H.
343. *Tephroseris integrifolia* (L.) Holub subsp. *aucheri* (DC.) B.Nord. –(Ümbülük Çiçeği), A5, KATO: 20032; Euro.-Sib., H.
344. *Tragopogon dshimilensis* K. Koch –(Cimil Porini), A5, KATO: 20033; Euro.-Sib., End., H.
345. *T. coloratus* C. A. Meyer –(Katır Yemliği), A5, KATO: 20034; Ir.-Tur., H.
346. *T. porrifolius* L. subsp. abbreviates (Boiss.) Coşkunçelebi & M. Gültepe –(Çayır Yemliği), A5, KATO: 20035; H.
347. *T. pratensis* L. –(Salsifin) A5, KATO: 20036; Euro.-Sib., H.
348. *Tripleurospermum tenuifolium* (Kit.) Freyn –(Saçaklı Beybunik), A5, KATO: 20037; Euro.-Sib., H.
349. *Turanecio hypochionaeus* (Boiss.) Hamzaoğlu –(Turanotu), A5, KATO: 20038; H.
350. *Tussilago farfara* L. –(Öksürükotu), A5, KATO: 20039; Euro.-Sib., C.
351. *Xeranthemum cylindraceum* SM. –(Deli Kağıtçiçeği), A5, KATO: 20040; Th.

67. Campanulaceae Juss.

352. *Asyneuma* amplexicaule (Willd.) Hand.-Mazz –(Hoşdeğnek), A5, KATO: 20041; H.

353. *A. limonifolium* (L.) Janch. subsp. *pestalozzae* (Boiss.) Damboldt –(Tavşanekmeği), A5, KATO: 20042; End., H.
354. *A. rigidum* (Willd.) Grossh. subsp. *rigidum* –(Nujdan), A5, KATO: 20043; Ir.-Tur., H.
355. *Campanula glomerata* L. subsp. *hispida* (Witasek) Hayek –(Yumak Çanı), A5, KATO: 20044; Euro.-Sib., H.
356. *C. latiflora* M.Bieb. subsp. *latifolia* –(Çançiçeği), A5, KATO: 20045; Euro.-Sib., H.
357. *C. olympica* Boiss. –(Orman Çanı), A5, KATO: 20046; Eux., H.
358. *C. rapunculus* L. var. *lambertiana* (A. DC.) Boiss. –(Sidikli Çançiçeği), A5, KATO: 20047; Euro.-Sib., H.

68. Apiaceae Lindl.

359. *Chaerophyllum aureum* L. –(Sarılakotu), A5, KATO: 20048; H.
360. *C. byzantium* Boiss. –(Hılakotu), A5, KATO: 20049; Eux., H.
361. *Heracleum platytaenium* Boiss. –(Öğrekotu), A5, KATO: 20050; Eux., H.
362. *Laser trilobum* (L.) Borkh –(Kefe Kimyonu), A5, KATO: 20051; H.
363. *Pastinaca sativa* L. subsp. *urens* (Req. Ex Godron) Celak –(Şeker Havucu), A5, KATO: 20052; H.
364. *Sanicula europaea* L. –(Sanikel), A5, KATO: 20053; Medit., H.
365. *Torilis arvensis* (Huds.) Link subsp. *arvensis* –(Dercik Otu), A5, KATO: 20054; Th.

69. Araliaceae Juss.

366. *Hedera helix* L. f. *helix* –(Duvar sarmaşığı), A5, KATO: 20055; Ph.

70. Adoxaceae E. Mey. (Mürvergiller)

367. *Sambucus ebulus* L. –(Mürver Otu), A5, KATO: 20056; Euro.-Sib., H.
368. *S. nigra* L. –(Ağaç Mürver), A5, KATO: 20057; Euro.-Sib., Ph.
369. *Viburnum lantana* L. –(Germeşe), A5, KATO: 20058; Euro.-Sib., Ph.

71. Caprifoliaceae Juss.

370. *Cephalaria syriaca* (L.) Schrader –(Pelemir), A5, KATO: 20059; H.
371. *Dipsacus laciniatus* L. –(Fesçitarağı), A5, KATO: 20060; H.
372. *Knautia involucrata* Somm. & Lev. –(Deli Eşekkulağı), A5, KATO: 20061; Eux. (mt), H.
373. *Lonicera orientalis* Lam. –(Has Çakkana), A5, KATO: 20062; End., Ph.
374. *Valeriana alliarifolia* Adams –(Pisot), A5, KATO: 20063; H.

Abbreviations

The abbreviations used in the text and the floristic list are as follows: Eux.: Euxine, Eur.-Sib.: Euro-Siberian, Hyr.-Eux.: Hyrcano-Euxine, Eux. (mt): Euxine (mountain), Medit.: Mediterranean, E. Medit.: East Mediterranean, E. Medit. (mt): East Mediterranean (mountain), Ir.-Tur.: Irano-Turanian, IUCN: International Union for the Conservation of Nature and Natural Resources, End.: Endemic, EN: Endangered, VU: Vulnerable, NT: Near Threatened, LC: Least Concern, Ph.: Phanerophyte, H.: Hemicryptophyte, C.: Cryptophyte, Ch.: Chamaephyte, Th.: Therophyte, VP.: Vascular Parasite, KATO: Herbarium of the Faculty of Forestry, Karadeniz Technical University, No.: Number.

Acknowledgement

The authors want to express their special thanks to staff of Kastamonu Regional Directorate for their logistic help supplying plant material.

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