

## Contributions to the Flora of the Western Part of Istranca Mountains (Kırklareli/Thrace Region)

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**Abstract:** This study was carried out for to contribute to the flora of Istranca (Yıldız) Mountains lying from northwest to southeast on the north of Thrace Region between 1996-1997. The study area is placed in A1 (E) square in grid system adopted DAVIS and in Euro-Siberian phytogeographical region. According to the results of this study; 321 taxa belonging to 219 genera and 65 families were recorded. Among these taxa, there are 4 *Pteridophytes* and 317 *Spermatophytes* (253 *Dicotyledones* and 64 *Monocotyledones*). The largest families are as follows: *Poaceae* 38 taxa (11.83%), *Asteraceae* 35 taxa (10.90%) and *Lamiaceae* 21 taxa (6.54%). The distribution of the taxa according to the phytogeographical regions is as follows: Euro-Siberian: 24.92%; Mediterranean: 8.09%; East Mediterranean: 3.73; Euxine: 2.18; Irano-Turanian: 0.93%; Hyrcano-Euxine: 0.31% and unknown: 59.81%. 10 of total taxa (3.11%) are cosmopolitan whilst 2 are endemic (0.62%). 9 of total taxa are new records for Thrace Region, whilst 5 are for A1 square.

**Key Words:** Istranca Mountains, flora.

### Istranca Dağları'nın (Kırklareli/Trakya Bölgesi) Batı Bölümünün Florasına Katkılar

**Özet:** Bu çalışma, 1996-1997 yılları arasında, Trakya Bölgesi'nin kuzeyinde, kuzeybatı-güneydoğu yönünde uzanan Istranca (Yıldız) Dağ silsilesinin florasına katkıda bulunmak amacıyla gerçekleştirilmiştir. Araştırma bölgesi, DAVIS tarafından uygulanan grid sistemine göre, A1 (E) karesinde yer almakta olup, Avro-Sibirya fitocoğrafik bölgesine girmektedir. Araştırma sonuçlarına göre; 65 familya ve 219 cinse ait toplam 321 takson kaydedilmiştir. Bu taksonların 4'ü *Pteridophyta*, 317'si *Spermatophyta*'ya (253 *Dicotyledoneae*, 64 *Monocotyledoneae*) aittir. En çok takson içeren familyalar; *Poaceae* 38 takson (%11.83), *Asteraceae* 35 takson (%10.90) ve *Lamiaceae* 21 takson (%6.54)'dir. Taksonların, fitocoğrafik bölgelere göre dağılımları ise, şöyledir: Avrupa-Sibirya %24.92; Akdeniz %8.09; Doğu Akdeniz %3.73; Öksin %2.18; İran-Turan %0.93; Hirkano-Öksin %0.31 ve orijini bilinmeyenler %59.81. Taksonların 10'u (%3.11) kozmopolit, 2'si (%0.62) ise, endemiktir. Tespit edilen taksonların 9'u Trakya Bölgesi, 5'i ise, A1 karesi için, yeni kayıttır.

**Anahtar Sözcükler:** Istranca Dağları, flora.

### Introduction

It is a fact that botanists have been interested in Thrace Region because of its rich flora. This richness depends on the variety of the climates and the geographical structures of the region. Until now, 2450 vascular plant taxa have been reported (1). There are many botanists who studied the flora of Thrace region. Among those, TURRIL (2) and WEBB (3) who are the European botanists have contributed in exploration of the flora. The others who are mainly Turkish botanists have studied different parts of the flora. For example SEÇMEN and LEBLEBİCİ (4) have investigated aquatic flora, BAYTOP (5, 6) has done some work in general. DAVIS (7, 8) and his group studied on Flora of Turkey included Thrace flora. KAYACIK (9) investigated flora of

Belgrad Forest, a part of Thrace region. Some botanists worked on trees, shrubs (10); on mountainous areas (11, 12). Plants of Thrace region were also studied by geographical point of view (13).

We aimed to contribute to the flora of the western part of the Istranca (Yıldız) mountains with this study.

### Study Area

The study area was chosen after detailed observations and investigations (14). It is in the north of the Thrace region (Figure 1). It is between 41° and 42° northern parallels and 27° and 28° eastern meridians. It is located on the west part of the Istranca Mountains. As known, Istranca Mountain series are located along Thrace Region in northwest-southeast direction from Bulgarian frontier

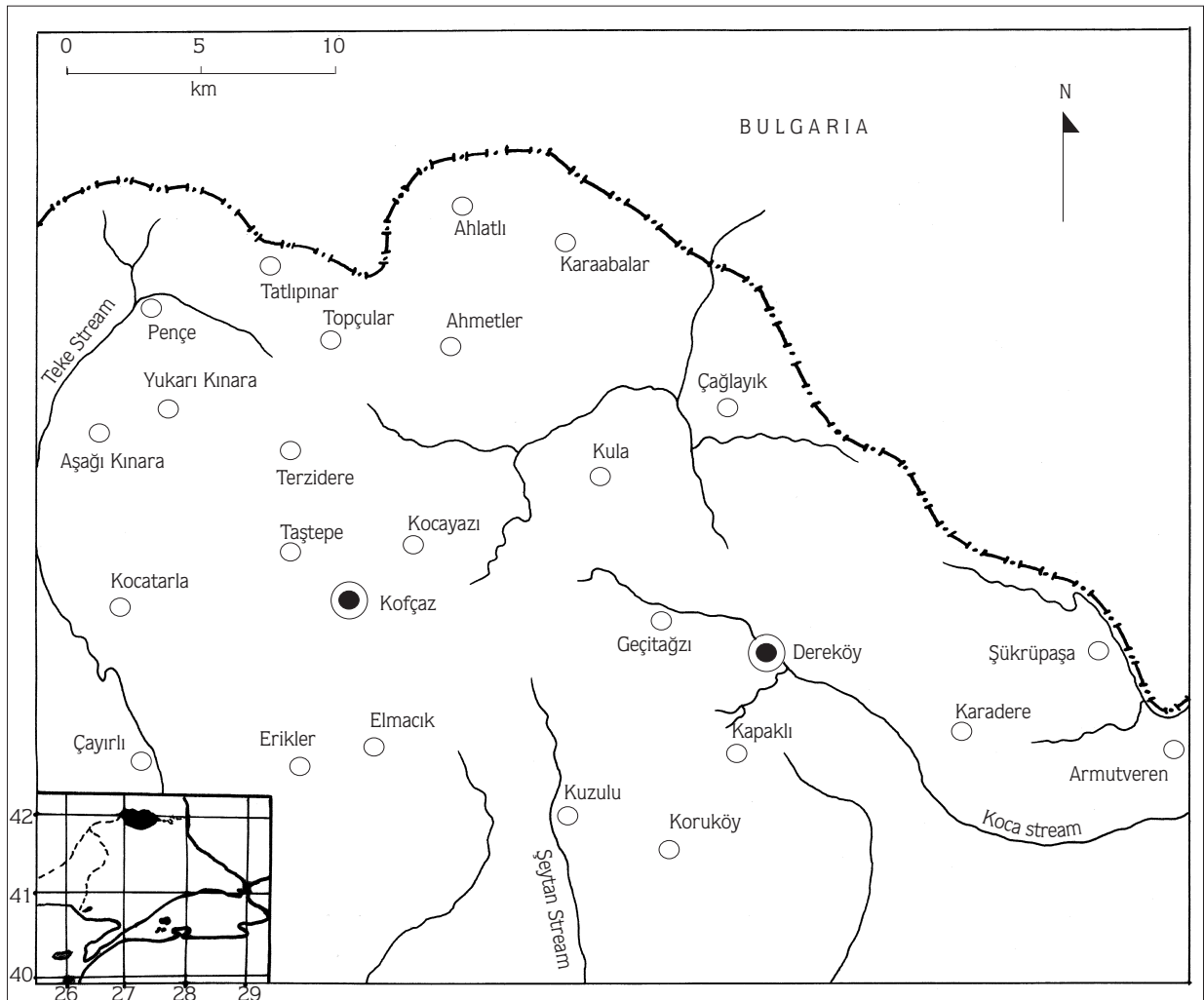


Figure 1. General view and location of the study area in the thrace Region.

to Istanbul. In this study, we investigated the flora of its western part. There are Kofçaz and Dereköy towns in the centrum of it (Figure 1). There are lots of mountain villages.

As known, Thrace Region is not very high. Its average altitide is, approximately 180 m. There are mainly two mountain series: Istranca Mountain Series in the north of Thrace Region and Ganos Mountain Series in the south of Thrace Region. Our study area is on the Istranca Mountains. There are a lot of hills on the study area. For example; Sivritepe (851 m.), Kaletpe (846 m.), Dalyantepe (725 m.), Çavuştepe (726 m.), Uludağ (313 m.), Kocatepe (209 m.) etc. The area except these hill series is essentially like high plateau that average altitude is between 500 and 600 m. There are some rivers and streams in the study area. For instance, Rezve River that

the State frontier between Turkey and Bulgaria; Teke Stream etc. There is not any lake, but there are a few ponds (Figure 1).

There are mainly three kinds of soils in the study area: Brown forest soils and podsols, rendzinas and non calcerous brown soils. Brown forest soils and podsols are the main kinds of soils. They are richest soils as organic matter. But pH is low therefore, they are acidic. The lime ratio is very low too (under 2%). There is a partly decompose organic matter that has between 1-15 cm. thickness on it. The second kind of soils are rendzinas. As known, these are superficial soils and their deepness are not very much. The last kind of the soils is, non calcerous brown soil. This kind is broadest soils in Thrace Region. but not in the study area. these soils are located generally in very rainy regions (13).

In general, humid oceanic climate is seen in the study area. As known, oceanic climate is characterized without dry period (17). The study area is a rainy region. For instance, the total rains in 1992 are 431.9 mm., in 1994, 399.0 mm., in 1996, 653.8 mm. 32.2% of the rains fall in winter; 23.7% in spring, 19.7% in summer and 24.4% in autumn. Average temperature; in 1992, 12.4°C; in 1994, 14.3°C; in 1996, 13.0°C. The average maximum temperatures; in 1992, 26.0°C; in 1994, 27.4°C; in 1996, 25.3°C. The average minimum temperature; in 1992, 1.0°C; in 1994, 3.4°C; in 1996, 2.0°C (18). As bioclimatical; the climate in the study area is very suitable for growing of the taxa mainly originated Euro-Siberian region as *Corylus avellana* L var. *avellana*, *Fagus orientalis* Lipsky, *Quercus frainetto* Ten., *Q. infectoria* Oliver subsp. *infectoria*, *Carpinus betulus* L. etc.

## Materials and Methods

The plant taxa in the western part of the Istranca Mountains are materials of this study. As total 1154 plant specimen were collected from 26 localities between 1996

and 1997. The specimens were dried by means of well-known herbarium method. Subsequently, they were identified using "Flora of Turkey and the East Aegean Islands, Vol. 1-9" (7) and 10 (8) and "Flora Europaea, Vol. 1-5 (19). These identifications were carried out in EDTU (Edirne), EGE (İzmir) and ISTO (Istanbul) herbaria. The identifications of some taxa that belong to the *Lamiaceae* family were carried out by Prof. Dr. Ertan TUZLACI (These identifications were showed in the floristic list). Then, the identified plant specimens were compared with the specimens in EGE and ISTO herbaria. The plant specimens are in EDTU (Edirne) and EGE (İzmir) Herbaria. The flora list was given according to the order in "Flora of Turkey and the East Aegean Islands". The climatological data were obtained from Kırklareli Meteorological Station (16). The phytogeographical originates of known taxa were given. The endemic and cosmopolitan taxa were given. New taxa records for Thrace Region and A1 square were given too. These new taxa were found out by scanning the studies about Thrace region (1, 18, 19).

## Results

### PTERIDOPHYTA

#### Equisetaceae

##### *Equisetum arvense* L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, stream side, 09.05.1996, EDTU 6833.

#### Adiantaceae

##### *Adiantum capillus-veneris* L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, in crevices on the rocks, 09.05.1996, EDTU 6834.

#### Hypolepidaceae

##### *Pteridium aquilinum* (L.) Kuhn

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest margin, 09.07.1997, EDTU 7113; between Kula and Geçitağzı Villages, around Yamkalar, *Quercus* forest, 10.07.1997, EDTU 7162.

#### Athyriaceae

##### *Athyrium filix-foemina* (L.) Roth

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 02.06.1996, EDTU 6880.

### SPERMATOPHYTA

#### ANGIOSPERMAE

#### DICOTYLEDONES

#### Ranunculaceae

##### *Nigella damascena* L.

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, roadside, 18.07.1996, EDTU 7022.

##### *Consolida phrygia* (Boiss.) Soó subsp. *thessalonica* (Soó) Davis

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, open area in the forest, 02.07.1996, EDTU 6990.

##### *C. regalis* S.F. Gray subsp. *regalis*

Around Çağlayık Village, fieldside, 19.06.1996, EDTU 6930.

##### *Clematis vitalba* L.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, mixed forest margin, 27.06.1996, EDTU 6956.

##### *C. cirrhosa* L.

Between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, on the scrub, 09.05.1996, EDTU 6795. Medit. element.

##### *Adonis annua* L.

Around Kocatarla Village, fieldside, 09.05.1996, EDTU 6818.

##### *Ranunculus repens* L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, wet soil, 08.05.1996, EDTU 6772.

##### *R. constantinopolitanus* (DC) d'Urv.

Around Ahmetler Village, open area in the forest, moist soil, 27.06.1997, EDTU 7061.

##### *R. gracilis* Clarke

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, open area in the forest, 03.07.1996, EDTU 7013.

#### Paeoniaceae

##### *Paeonia peregrina* Miller

Between Kocayazı and Kula Villages, 2<sup>nd</sup> km, mixed forest, 09.07.1997, EDTU 7108.

#### Papaveraceae

##### *Papaver rhoeas* L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6881.

**P. dubium L.**

Around Kocatarla Village, open area in the forest, 09.05.1996, EDTU 6819.

**Hypocoum imberbe** Sibth. & Sm.

Between Ahmetler and Ahlatlı Villages 2<sup>nd</sup> km, open area in the forest, 27.06.1997, EDTU 7098.

**Fumaria kralikii** Jordan

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, stony slope, 08.05.1996, EDTU 6773.

**F. officinalis L.**

Around Karaabalar Village, fieldside, 03.07.1996, EDTU 7033.

**Brassicaceae/Cruciferae**

**Sinapis arvensis L.**

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, roadside, 02.07.1996, EDTU 6991.

**Calepina irregularis** (Asso) Thellung

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, roadside, 09.05.1996, EDTU 6882.

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

Between Topçular Village turning and Ahmetler Village, roadside, 27.06.1996, EDTU 6969; Around Ahlatlı Village, fieldside, 03.07.1996, EDTU 6998.

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

Between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, open area in the *Carpinus* forest, 09.05.1996, EDTU 6796.

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

Around Kocayazı Village, open area in the forest, 08.05.1996, EDTU 6789; Around Çağlayık Village, open area in the forest, 19.06.1996, EDTU 6931; Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the forest, 18.07.1996, EDTU Cosmopolitan.

**Berteroa mutabilis** (Vent.) DC.

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open slope, 27.06.1996, EDTU 6945.

**Erophila verna** (L.) Chevall. subsp. **verna**

Around Ahmetler Village, open area in the mixed forest, slope, 27.06.1997, EDTU

7062.

**Rorippa thracica** (Gris.) Fritsch

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the forest, 08.05.1996, EDTU 6774.

**R. sylvestre** (L.) Bess.

Around Geçitağzı Village, open area in the forest, 09.05.1996, EDTU 6804; between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, open area in the forest, 09.05.1996, EDTU 6812.

**Cardamine bulbifera** (L.) Crantz

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, in *Quercus* forest, 02.07.1996, EDTU 6992. Euro-Sib. element.

**Erysimum diffusum** Ehrh.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, 29.05.1996, EDTU 6835. Euro-Sib. element.

**Alliaria petiolata** (Bieb.) Cavara & Grande

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, mixed forest, shady area, 27.06.1996, EDTU 6970.

**Sisymbrium irio** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, roadside, 09.05.1996, EDTU 6923.

**Resedaceae**

**Reseda lutea** L. var. **lutea**

Between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, roadside, 18.06.1996, EDTU 6923.

**R. luteola** L.

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, fieldside, 02.07.1996, EDTU 6993.

**Cistaceae**

**Cistus creticus** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, EDTU 6836. Medit. element.

**Violaceae**

**Viola sieheana** Becker

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, *Fagus* forest, 27.06.1997, EDTU

7099; Between Kocayazı and Kula Villages, 2<sup>nd</sup> km, mixed forest, 09.07.1997, EDTU 7109; Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7194.

**Caryophyllaceae**

**Muniartia hirsuta** (Bieb.) Hand.-Mazz. subsp. **falcata** (Gris.) Mattf.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, stony slope, 02.06.1996, EDTU 6908.

**M. glomerata** (Bieb.) Degen subsp. **glomerata**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6971.

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

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, mixed forest, 27.06.1996, EDTU 6957.

**Stellaria holostea** L.

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, *Fagus* forest, 27.06.1997, EDTU 7100; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7114; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7195. Euro-Sib. element.

**Cerastium fontanum** Baumg. subsp. **triviale** (Link) Jalas

Around Kocatarla Village, open area in the forest, 09.05.1996, EDTU 6821; around Ahlatlı Village, open area in the forest, 03.07.1996, EDTU 6999; between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the forest, stony slope, 27.06.1996, EDTU 6958. Cosmopolitan.

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

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, slope, 02.06.1996, EDTU 6909.

**Dianthus armeria** L. subsp. **armeria**

Around Ahlatlı Village, roadside, 03.07.1996, EDTU 7000.

**D. viscidus** Bory & Chaub.

Around Karaabalar Village, open area in the forest, 03.07.1996, EDTU 7034.

**D. calocephalus** Boiss.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6972.

**D. giganteus** d'Urv.

Around Ahlatlı Village, open area in the forest, 03.07.1996, EDTU 7001; Around Karaabalar Village, open area in the forest, 24.09.1996, EDTU 7035. Euro-Sib. element.

**Petrorhagia velutina** (Guss.) Ball & Heywood

Between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, open area in the forest, 09.05.1996, EDTU 6797; between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, open area in the forest, 18.06.1996, EDTU 6924; between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the fields, 18.07.1996, EDTU 7023.

**Saponaria officinalis** L.

Around Geçitağzı Village, streamside, 09.05.1996, EDTU 6805.

**Silene italica** (L.) Pers.

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, open area in the forest, 03.07.1996, EDTU 7014.

**Lychnis coronaria** (L.) Desr.

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 4946. Euore.-Sib. element.

**Agrostemma githago** L.

Around Çağlayık Village, open area in the forest, 19.06.1996, EDTU 6932; Around Ahmetler Village, fieldside, 27.06.1997, EDTU 7063.

**Illecebraceae****Herniaria glabra** L.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, stony slope, 27.06.1996, EDTU 6973.

**H. incana** Lam.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, stony slope, 09.05.1996, EDTU 6837.

**Paronychia polygonifolia** (Vill.) DC.

Around Çağlayık Village, open area in the forest, 19.06.1996, EDTU 6803.

**Scleranthus perennis** L. subsp. **dichotomus** (Schur) Stoj.

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, open area in the forest, stony slope, EDTU 7015.

**Polygonaceae****Polygonum lapathifolium** L.

Around Dereköy Village, open area in the forest, steamside, 13.10.1996, EDTU 7045.

**P. aviculare** L.

Between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, roadside, 18.06.1996, EDTU 6925; around Karaabalar Village, waste place, 24.09.1996, EDTU 7036. Cosmopolitan.

**Rumex acetosella** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6884; around Karaabalar Village, waste places, 03.07.1996, EDTU 7037. Cosmopolitan.

**R. tuberosus** L. subsp. **tuberosus**

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, open area in the forest, 27.06.1997, EDTU 7101.

**R. crispus** L.

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6947; Around Kocayazı Villages, open area in the mixed forest, 08.05.1996, EDTU 6791.

**R. conglomeratus** Murray

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, mixed forest, 27.06.1997, EDTU 6775; Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7115.

**R. pulcher** L.

Around Kocatarla Village, roadside, 09.05.1996, EDTU 6822.

**Chenopodiaceae****Beta maritima** L. var **maritima**

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, fieldside, 27.06.1997, EDTU 7102.

**Chenopodium murale** L.

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, roadside, 18.07.1996, EDTU 7024. Cosmopolitan.

**Amaranthaceae****Amaranthus retroflexus** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 09.05.1996, EDTU 6839.

**Phytolaccaceae americana** L.

Around Ahmetler Village, open area in the mixed forest, 27.06.1997, EDTU 7064.

**Hypericaceae/Guttiferae****Hypericum calycinum** L.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup>, *Fagus* forest, 02.06.1996, EDTU 6910. Euxine element.

**H. perforatum** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7065; between Kula and Geçitağzı Villages, around Yamkalar, 10.07.1997, EDTU 7163. Medit. element.

**H. perforatum** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the forest, 09.07.1997, EDTU 7116; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the forest, 12.07.1997, EDTU 7196.

**Malvaceae****Malva sylvestris** L.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, 02.06.1996, EDTU 6911; between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, 27.06.1996, EDTU 6798.

**Lavatera thuringiaca** L.

Around Dereköy Village, steamside, 13.10.1996, EDTU 7046.

**L. punctata** All.

Around Geçitağzı Village, open area in the forest, 09.05.1996, EDTU 6806.

***Alcea pallida* Waldst. & Kit.**

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, open area in the forest, 02.08.1996, EDTU 6994.

**Tiliaceae**

***Tilia argentea* Desf. ex DC.**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7117; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7197. Euro-Sib. element.

**Geraniaceae**

***Geranium robertianum* L.**

Between Dereköy and Bulgaria frontier, *Fagus* forest, 02.06.1996, EDTU 6912; between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, *Fagus* forest, 27.06.1997, EDTU 7103.

***G. molle* L. subsp. *molle***

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, fieldside, 09.07.1997, EDTU 7118.

***G. pusillum* Burm. fil.**

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6959.

***G. dissectum* L.**

Around Ahmetler Village, open area in the forest, 27.06.1997, EDTU 7066; 25, open area in the forest, 10.07.1997, EDTU 7164.

***G. pyrenaicum* Burm. fil.**

Between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, *Fagus* forest, 02.06.1996, EDTU 7047.

*Erodium cicutarium* (L.) L'Herit. subsp. *cicutarium* Around Dereköy Village, open area in the *Fagus* forest, 02.06.1996, EDTU 7047.

**Aceraceae**

***Acer tataricum* L.**

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, *Quercus* forest, 03.07.1996, EDTU 7016.

***A. campestre* L. subsp. *campestre***

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7067; between Kocayazı and Kula Villages, 5<sup>th</sup>, mixed forest, 09.07.1997, EDTU 7119; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7198.

**Fabaceae/Leguminosae**

***Genista carinalis* Gris.**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6974; between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, 10.07.1997, EDTU 7165.

***Astragalus thracicus* Gris.**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6975.

***Vicia cracca* L. subsp. *gerardii* Gaudin**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, 09.07.1997, EDTU 7120; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7199; between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, EDTU 6976; between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, 09.05.1996, EDTU 6885.

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

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7068; between Kocayazı and Kula Villages, 5<sup>th</sup>, mixed forest, 09.07.1997, EDTU 7121; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7200.

***Ononis spinosa* L. subsp. *antiquorum* (L.) Briq.**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, slope, 27.06.1996, EDTU 6977; between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, open area in the forest, 18.06.1996, EDTU 6926.

***Trifolium campestre* Schreb.**

Between Dereköy and Demirköy Villages,

7<sup>th</sup> km, open area in the forest, 09.05.1996, EDTU 6840; around Ahmetler Village, open area in the forest, 27.06.1997, EDTU 7069.

***T. spumosum* L.**

Around Ahmetler Village, open area in the forest, 27.06.1997, EDTU 7070; between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the forest, 09.07.1997, EDTU 7122. Medit. element.

***T. constantinopolitanum* Ser.**

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 09.05.1996, EDTU 6841.

***Melilotus officinalis* (L.) Desr.**

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6960.

***M. alba* Desr.**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6978.

***Dorycnium graecum* (L.) Ser.**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, slope, 27.06.1996, EDTU 6979; between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, 29.05.1996, EDTU 6842; between Kula and Geçitağzı Villages, around Yamkalar, 10.07.1997, EDTU 7166. Euxine element.

***Lotus corniculatus* L. var. *tenuifolius* L.**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the forest, 09.07.1997, EDTU 7123; between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, open area in the forest, 18.06.1996, EDTU 6927.

**Rosaceae**

***Prunus spinosa* L. subsp. *dasypylla* (Schur) Domin**

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the forest, 08.05.1996, EDTU 6776. Euro.-Sib. element.

***Rubus canescens* DC. var. *canescens***

Around Dereköy Village, open area in the forest, 13.10.1996, EDTU 7048; Around Ahmetler Village, open area in the forest, 27.06.1997, EDTU 7071.

**Potentilla argentea** L.

Around Çağlayık Village, open area in the forest, 19.06.1996, EDTU 6933.

**P. recta** L. Group B

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, open area in the forest, 03.07.1996, EDTU 7017.

**P. reptans** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7072; between Kocayazı and Kula Villages, 5<sup>th</sup> km, forest, 09.07.1997, EDTU 7124; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7201.

**Fragaria vesca** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7073.

**Geum urbanum** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7074; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7125; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7202.

**Agrimonia eupatoria** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7075; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7203.

**Sanguisorba minor** Scop. subsp. *minor*

Around Kocayazı Village, open area in the forest, 08.05.1996, EDTU 6792.

**S. minor** Scop. subsp. *muricata* (Spach) Briq.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, 29.05.1996, EDTU 6843.

**Rosa canina** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the forest, 09.07.1997, EDTU 7126; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the forest, 12.07.1997, EDTU 7204.

**Mespilus germanica** L.

Between Kocayazı and Kofcaz Villages,

2<sup>nd</sup> km, mixed forest, 09.05.1996, EDTU 6799. Hyrcano-Euxine element.

**Pyracantha coccinea** Roemer

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the forest, 08.05.1996, EDTU 6777.

**Crataegus pentagyna** Waldst. & Kit. ex Willd.

Around Kocayazı Village, mixed forest, 08.05.1996, EDTU 6793. Euro-Sib. element.

**C. monogyna** Jacq. subsp. *monogyna*

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7076; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7127; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7206. Euro-Sib. element.

**Sarbus aucuparia** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 6771. Euro-Sib. element.

**S. torminalis** (L.) Crantz. var. *torminalis*

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7077; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7128.

**Pyrus amygdaliformis** Vill. var. *amygdaliformis*

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 02.06.1996, EDTU 6886.

**P. elaeagnifolia** Pallas subsp. *elaagnifolia*

Around Kocatarla Village, open area in the forest, 09.05.1996, EDTU 6823.

**Lythraceae****Lythrum salicaria** L.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, wet soil, 27.06.1996, EDTU 6980; between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, wet soil, 09.05.1996, EDTU 6845. Euro-Sib element.

**Onagraceae****Circaea lutetiana** L.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, mixed forest, 27.06.1996, EDTU 6961.

**Epilobium angustifolium** L.

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, *Fagus* forest, 27.06.1997, EDTU 7104.

**E. hirsutum** L.

Around Karaabalar Village, open area in the forest, wet soil, 03.07.1996, EDTU 7038; around Ahlatlı Village, open area in the forest, wet soil, 03.07.1996, EDTU 7002.

**E. lanceolatum** Leb. & Mauri

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 09.05.1996, EDTU 6846.

**Cucurbitaceae****Ecballium elaterium** (L.) A. Rich.

Around Dereköy Village, roadside, 13.10.1996, EDTU 7049. Medit. element.

**Bryonia alba** L.

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, mixed forest, 27.06.1996, EDTU 6948. Euro-Sib. element.

**Crassulaceae**

**Sedum pallidum** Bieb. var. *bithynicum* (Boiss.) Chamberlain

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, rocky place, 02.06.1996, EDTU 6913. Euxine element.

**Apiaceae/Umbelliferae**

**Eryngium campestre** L. var. *virens* Link.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the forest, stony place, 08.05.1996, EDTU 6778; between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, open area in the forest, 09.05.1996, EDTU 6814; between Karadere and Şükrüpaşa Villages, 5<sup>th</sup> km, open area in the forest, 18.06.1996, EDTU 6928.

**Myrrhoides nodosa** (L.) Cannon

Around Ahmetler Village, mixed forest,

27.06.1997, EDTU 7078; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7129; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7207.

**Conium maculatum** L.

Between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, streamside, 09.05.1996, EDTU 6815.

**Torilis arvensis** (Huds.) Link subsp. **arvensis**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the forest, 09.07.1997, EDTU 7129; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the forest, 12.07.1997, EDTU 7208.

**Daucus carota** L. Group C

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, 09.05.1996, EDTU 6887.

**D. guttatus** Sm.

Around Kocatarla Village, open area in the *Quercus* forest, 09.05.1996, EDTU 6824; between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6847.

**Araliaceae**

**Hedera helix** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, on the ground in the mixed forest, 09.07.1997, EDTU 7130.

**Cornaceae**

**Cornus mas** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7079; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7131; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7209. Euro-Sib. element.

**Caprifoliaceae**

**Sambucus ebutus** L.

Around Karaabalar Village, open area in the forest, 03.07.1996, EDTU 7039, Euro-Sib. element.

**Dipsacaceae**

**Knautia drymeia** Heuffel Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, 09.05.1996, EDTU 6848. Euro-Sib. element.

**Scabiosa columbaria** subsp. **ochroleuca** (L.) Celak. var. **ochroleuca** (L.) Coulter

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, stony slope, 10.07.1997, EDTU 7168.

**Asteraceae/Compositae**

**Xanthium spinosum** L.

Around Dereköy Village, open area in the forest, slope, 13.10.1996, EDTU 7050.

**Inula heterolepis** Boiss.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, rocky slope, 11.07.1996, EDTU 6790. E. Medit. element.

**Filago vulgaris** Lam.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7210.

**Bellis perennis** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 09.05.1996, EDTU 6889. Euro-Sib. element.

**Senecio doria** L. subsp. **umbrosus** (Waldst. & Kit.) Soó

Between Dereköy and Demirköy, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6849. Euro-Sib. element.

**S. vulgaris** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, 09.05.1996, EDTU 6890.

**Tussilago farfara** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6850. Euro-Sib. element.

**Anthemis tinctoria** L. var. **euxina** (Boiss.) Grierson

Between Topğular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6981.

**Achillea millefolium** L. subsp. **millefolium**

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the *Quercus* forest, 18.07.1996, EDTU 7025. Euro-Sib. element.

**A. clypeolata** Sm.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 09.05.1996, EDTU 6891. Euro-Sib. element.

**A. coerctata** Poir.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, slope, 09.07.1997, EDTU 7132.

**Tanacetum parthenium** (L.) Schultz

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, slope, 10.07.1997, EDTU 7169.

**Matricaria chamomilla** L. var. **chamomilla**

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 29.05.1996, EDTU 6851; around Geçitağzı Village, roadside, 09.05.1996, EDTU 6807.

**Arctium minus** (Hill) Bernh. subsp. **minus**

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6852.

**Cirsium italicum** (Savi) DC.

Around Dereköy Village, open area in the forest, fieldside, 13.10.1996, EDTU 7051. Medit. element.

**C. canum** (L.) All.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, wet soil, 09.05.1996, EDTU 6892. Euro-Sib. element.

**C. arvense** (L.) Scop. subsp. **arvense**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, roadside, 09.07.1997, EDTU 7133.



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

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7170.

**Carduus nutans** L. subsp. **falcato-incurvus** P.H. Davis

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7171.

**Centaurea virgata** Lam. Group C

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, slope, 29.05.1996, EDTU 6853.

**C. salicifolia** Bieb. ex Willd. subsp. **salicifolia**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, meadow, 09.07.1997, EDTU 7134. Euxine element.

**C. salonitana** Vis.

Between Kula and Geçitağzı Villages, around Yamkalar, roadside, 11.07.1996, EDTU 7172. Euro-Sib. element.

**C. cyanus** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, 08.05.1996, EDTU 6779.

**Cnicus benedictus** L. var. **benedictus**

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, roadside, 09.05.1996, EDTU 6893.

**Carlina corymbosa** L.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, 10.07.1997, EDTU 7173. Medit. element.

**Xeranthemum annuum** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, dry soil, 29.05.1996, EDTU 6854.

**X. cylindraceum** Sm.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, dry soil, 29.05.1996, EDTU 6855.

**Echinops sphaerocephalus** L. subsp. **sphaerocephalus**

Between Kula and Geçitağzı Villages, around Yamkalar, roadside, 11.07.1996, EDTU 7174. Euro-Sib. element.

**Cichorium intybus** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, roadside, 09.07.1997, EDTU 7135.

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

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6856.

**Pilosella hoppeana** (Schultes) C.H. & F.W. Schultz. **pilisquama** (NP.) Sell & West

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6894; between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 10.07.1997, EDTU 7175.

**Mycelis muralis** (L.) Dum.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7080; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7136; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7211. Euro-Sib. element.

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

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7212.

**Taraxacum scaturiginosum** G. Hagl.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, streamside, 29.05.1996, EDTU 6857.

**Chondrilla juncea** L. var. **juncea**

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, rocky slope, 09.07.1997, EDTU 7137.

**Campanulaceae**

**Campanula persicifolia** L.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, 10.07.1997, EDTU 7176. Euro-Sib. element.

**C. rapunculus** L. var. **lambertiana** (A. DC). Boiss.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, *Fagus* forest, 02.06.1996, EDTU 6914. Euro-Sib. element.

**Legousia pentagonia** (L.) Thellung

Around Kocatarla Village, fieldside, 09.05.1996, EDTU 6825. E. Medit. element.

**Jasione montana** L.

Around Ahlatlı Village, open area in the *Quercus* forest, dry slope, 03.07.1996, EDTU 7003.

**Ericaceae**

**Calluna vulgaris** (L.) Hull.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, slope, 10.07.1997, EDTU 7177. Euro-Sib. element.

**Primulaceae**

**Primula vulgaris** Huds. subsp. **sibthorpii** (Hoffmanns.) W.W. Sm. & Forrest

Around Kocatarla Village, *Quercus* forest, 09.05.1996, EDTU 6826. Euxine element.

**Cyclamen coum** Miller var. **coum**

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, *Quercus* forest, 08.05.1996, EDTU 6780.

**Lysimachia vulgaris** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, streamside, 09.05.1996, EDTU 6858.

**L. punctata** L.

Around Geçitağzı Village, open area in the *Fagus* forest, streamside, 09.05.1996, EDTU 6808. Euro-Sib. element.

**Anagallis arvensis** L. var. **arvensis**

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, stony slope, 09.05.1996, EDTU 6859.

**Oleaceae**

**Jasminum fruticans** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6895. Medit. element.

**Fraxinus ornus** L. subsp. **ornus**

Between Kocayazı and Kula Villages, 2<sup>nd</sup> km, *Quercus* forest, 09.07.1997, EDTU 7110. Euro-Sib. element.

**Asclepiadaceae**

**Periploca graeca** L. var. **graeca**

Around Çağlayık Village, *Fagus* forest margin, 19.06.1996, EDTU 6934. E. Medit. element.

**Vincetoxicum hirundinaria** Medicus

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6949.

**Gentianaceae**

**Centaurium erythraea** Rafn. subsp. **erythraea**

Between Kocayazı and Kula Villages, 2<sup>nd</sup> km, *Quercus* forest, 27.06.1996, EDTU 7111. Euro-Sib. element.

**Convolvulaceae**

**Convolvulus arvensis** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 09.05.1996, EDTU 6860; around Ahlatlı Village, open area in the *Quercus* forest margin, 09.05.1996, EDTU 6827.

**C. elegantissimus** Miller

Around Çağlayık Village, fieldside, 19.06.1996, EDTU 6935. Medit. element.

**Cuscutaceae**

**Cuscuta campestris** Yuncker

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, fieldside, on *Chenopodium*, 18.07.1996, EDTU 7026. Cosmopolitan.

**Boraginaceae**

**Heliotropium europaeum** L.

Around Geçitağzı Village, roadside, 09.05.1996, EDTU 6809.

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

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, slope, 09.05.1996, EDTU 6896.

**M. sicula** Guss.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, wet soil, 09.05.1996, EDTU 6897.

**Echium vulgare** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 09.05.1996, EDTU 6862.

**Symphytum orientale** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, mixed forest, streamside, 09.05.1996, EDTU 6863. Euro-Sib. element.

**S. tuberosum** L. subsp. **nodosum** (Schur) Soó

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 09.05.1996, EDTU 6898. Euro-Sib. element.

**Trachystemon orientalis** (L.) G. Don

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, *Fagus* forest, 02.06.1996, EDTU 6915. Euxine element.

**Anchusa leptophylla** Roemer & Schultes subsp. **incana** (Ledeb.) Chamb.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, rocky slope, 09.05.1996, EDTU 6864. Endemic. Ir.-Tur. element.

**A. officinalis** L. Group B

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, fieldside, 27.06.1996, EDTU 6982. Euro-sib. element.

**A. azurea** Miller var. **azurea**

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Quercus* forest, 08.05.1996, EDTU 6781.

**Borago officinalis** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, 09.05.1996, EDTU 6899.

**Solanaceae**

**Solanum dulcamara** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, streamside, 09.05.1996, EDTU 6865. Euro-Sib. element.

**Scrophulariaceae**

**Verbascum blattaria** L.

Around Ahlatlı Village, roadside, 03.07.1996, EDTU 7005.

**V. ovalifolium** Donn ex Sims subsp. **ovalifolium**

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the forest, slope, 02.06.1996, EDTU 7213; between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6962. Euro-Sib. element.

**Linaria genistifolia** (L.) Miller subsp. **genistifolia**

Between Kula and Geçitağzı Villages, around Yamkalar, roadside, 11.07.1996, EDTU 7178; between Dereköy and Demirköy Villages, 7<sup>th</sup> km, roadside, 29.05.1996, EDTU 6866. Euro-Sib. element.

**L. vulgaris** Miller

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7214. Euro-Sib. element.

**Kickxia commutata** (Bernh. ex Reichb.) Fritsch subsp. **commutata**

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6867. E. Medit. element.

**Digitalis viridiflora** Lindley

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6867. E. Medit. element.

**D. lanata** Ehrh.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, slope, 09.05.1996, EDTU 6868; between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, slope, 02.06.1996, EDTU 6916. Euro-Sib. element.

**Veronica serpyllifolia** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, streamside, 29.05.1996, EDTU 6869.

**V. polita** Fries

Between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, open area in the *Quercus* forest, 02.07.1996, EDTU 6995. Cosmopolitan.

**V. cymbalaria** Bodard

Between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, open area in the forest, stony slope, 09.05.1996, EDTU 6800b Medit. element.

**V. chamaedrys** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, *Quercus* forest, 08.05.1996, EDTU 6782. Euro-Sib. element.

**V. pectinata** L. var. **pectinata**

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, *Quercus* forest, 08.05.1996, EDTU 6783.

**V. officinalis** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, *Quercus* forest, 29.05.1996, EDTU 6870. Euro-Sib. element.

**Euphrasia pectinata** Ten.

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the *Quercus* forest, 18.07.1996, EDTU 7027. Euro-Sib. element.

**Parentucellia latifolia** (L.) Caruel.  
subsp. **latifolia**

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, *Quercus* forest, 08.05.1996, EDTU 6784. Medit. element.

**Lamiaceae/Labiatae****Ajuga reptans** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, *Quercus* forest, 08.05.1996, EDTU 6785. Euro-Sib. element.

**A. chamaepitys** (L.) Schreber subsp. **chia** (Schreber) Arcangeli var. **ciliata** Briq.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6963. (Det.: E. TUZLACI).

**Teucrium chamaedrys** L. subsp. **chamaedrys**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6983. Euro-Sib. element.

**T. polium** L.

Around Kocatarla Village, open area in the *Quercus* forest, 09.05.1996, EDTU 6828; around Ahlatlı Village, open area in the *Quercus* forest, 03.07.1996, EDTU 7006.

**Scutellaria albida** L. subsp. **albida**

Between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, open area in the *Fagus* forest, 09.05.1996, EDTU 6816. E. Medit. element. (Det.: E. TUZLACI).

**Lamium amplexicaule** L.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı open area in the mixed forest, 12.07.1997, EDTU 7216. Euro-Sib. element.

**L. purpureum** L. var. **purpureum**

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6900. Euro-Sib. element.

**Leonurus cardiaca** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, 29.05.1996, EDTU 6871. Euro-Sib. element. (Det.: E. TUZLACI).

**Sideritis lanata** L.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, 02.06.1996, EDTU 6811. E. Medit. element.

**S. montana** L. subsp. **montana**

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6984. Medit. element. (Det.: E. TUZLACI).

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

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, 09.05.1996, EDTU 6872. Euro-Siberian element.

**S. angustifolia** Bieb.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, *Quercus* forest, 27.06.1996, EDTU 6964. Euro-Sib. element.

**Nepeta nuda** L.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6985.

(Det.: E. TUZLACI).

**Prunella vulgaris** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, roadside, 09.07.1997, EDTU 7138; Euro-Sib. element.

**Organum vulgare** L. subsp. **vulgare**

Around Ahmetler Village, open area in the mixed forest, 27.06.1997, EDTU 7081. Euro-Sib. element.

**Clinopodium vulgare** L. subsp. **arundanum** (Boiss.) Nyman

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the forest, 09.05.1996, EDTU 6874. (Det.: E. TUZLACI).

**Thymus longicaulis** C. Presl. subsp. **longicaulis** var. **subisophyllus** (Borbás) Jalas

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6986; between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, 29.05.1996, EDTU 6875.

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

Around Dereköy Village, streamside, 13.10.1996, EDTU 7052.

**Ziziphora capitata** L.

Around Çağlayık Village, open area in the forest, slope, 19.06.1996, EDTU 6936. Ir.-Tur. element. (Det. E. TUZLACI).

**Salvia virgata** Jacq.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, 09.05.1996, EDTU 6876. Ir.-Tur. element. (Det.: E. TUZLACI).

**S. verticillata** L. subsp. **verticillata**

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, mixed forest, 27.06.1996, EDTU 6965. Euro-Sib. element. (Det. E. TUZLACI).

**Plantaginaceae****Plantago major** L. subsp. **major**

Around Ahlatlı Village, open area in the *Quercus* forest, 03.07.1996, EDTU 7007; between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest,

streamside, 27.06.1996, EDTU 6950.

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

Around Çağlayık Village, open area in the *Fagus* forest, stony slope, 19.06.1996, EDTU 6937.

**P. holosteum** Scop.

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, open area in the *Quercus* forest, stony slope, 03.07.1996, EDTU 7018. Medit. element.

**P. lanceolata** L.

Around Karaabalar Village, open area in the *Quercus* forest, 24.09.1996, EDTU 7040; between Kocayazı and Kofcaz Villages, 2<sup>nd</sup> km, roadside, 09.05.1996, EDTU 6801.

#### Thymelaeaceae

**Daphne pontica** L.

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, *Fagus* forest, 02.06.1996, EDTU 6917. Euxine element.

#### Loranthaceae

**Viscum album** subsp. *album*

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, on *Carpinus*, 12.07.1997, EDTU 7217.

#### Euphorbiaceae

**Euphorbia stricta** L.

Around Çağlayık Village, *Fagus* forest, 19.06.1996, EDTU 6938. Euro-Sib. element.

**E. helioscopia** L.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7218.

**E. seguieriana** Necker subsp. *seguieriana*

Around Dereköy Village, in the mixed forest, streamside, 13.10.1996, EDTU 7053. Euro-Sib. element.

**E. amygdaloides** L. var. *robbiae* (Turrill) Radcliffe-Simth

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7082; between Kula and Geçitağzı Villages, around Yamkalar, *Quercus*

forest, 10.07.1997, EDTU 7179; Endemic. Euxine element.

#### Urticaceae

**Urtica urens** L.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7180.

**U. dioica** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7083; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7139. Euro-Sib. element.

#### Juglandaceae

**Juglans regia** L.

Around Dereköy Villages, open area in the mixed forest, 13.10.1996, EDTU 7054.

#### Fagaceae

**Fagus orientalis** Lipsky

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7084; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, EDTU 7140; between Kula and Geçitağzı Villages, around Yamkalar, mixed forest, 10.07.1997, EDTU 7181. Euro-Sib. element.

**Quercus hartwissiana** Steven

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7220.

**Q. frainetto** Ten.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7085. Euro-Sib. element.

**Q. petraea** (Mattuschka) Liebl. subsp. *petraea*

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7086; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7141.

**Q. petraea** (Mattuschka) Liebl. subsp. *iberica* (Steven ex Bieb.) Krassiln.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7087; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7142.

**Q. infectoria** Olivier subsp. *infectoria*

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7088; between Kula and Geçitağzı Villages, around Yamkalar, mixed forest, 10.07.1997, EDTU 7182. Euro-Sib. element.

**Q. cerris** L. var. *cerris*

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7221. Medit. element.

#### Corylaceae

**Carpinus betulus** L.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7089; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7143; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7222. Euro-Sib. element.

**C. orientalis** Miller

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7223.

**Corylus avellana** L. var. *avellana*

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7145; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7225. Euro-Sib. element.

#### Betulaceae

**Alnus glutinosa** (L.) Gaertner subsp. *glutinosa*

Around Dereköy Village, mixed forest, streamside, 13.10.1996, EDTU 7056. Euro-Sib. element.

#### Salicaceae

**Salix alba** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, mixed forest, streamside, 09.05.1996, EDTU 6877; between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, mixed forest, streamside, 09.05.1996, EDTU 6901. Euro-Sib. element.

**Populus tremula** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7146. Euro-Sib. element.

**Rubiaceae****Sherardia arvensis** L.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7226. Medit. element.

**Asperula tenella** Heuffel ex Degen

Around Kocatarla Village, open area in *Quercus* forest, stony slope, 09.05.1996, EDTU 6829.

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

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, stony slope, 09.07.1997, EDTU 7147.

**G. aparine** L.

Around Ahmetler Village, open area in the mixed forest, 27.06.1997, EDTU 7090; between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, 09.07.1997, EDTU 7148; between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, 10.07.1997, EDTU 7183; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7227.

**Cruciata laevipes** Opiz

Between Ahmetler and Ahlatlı Villages, 2<sup>nd</sup> km, open area in the *Fagus* forest, 27.06.1997, EDTU 7106. Euro-Sib. element.

**MONOCOTYLEDONES****Araceae****Arum maculatum** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7149; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7228.

**Liliaceae****Ruscus hypoglossum** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7150. Euro-Sib. element.

**Allium paniculatum** L. subsp. **paniculatum**

Around Ahlatlı Village, mixed forest, 27.06.1997, EDTU 7091. Medit. element.

**A. paniculatum** L. subsp. **fuscum** (Waldst. & Kit.) Arc.

Around Ahlatlı Village, open area in the forest, slope, 03.07.1996, EDTU 7008. E. Medit. element.

**A. scorodoprasum** L. subsp. **rotundum** (L.) Stearn

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6902; between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the forest, 02.06.1996, EDTU 6918. Medit. element.

**A. vineale** L.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the forest, 27.06.1996, EDTU 6966.

**Scilla bifolia** L.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the forest, 09.05.1996, EDTU 6903. Medit. element.

**Ornithogalum orthophyllum** Ten.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6987.

**Muscari comosum** (L.) Miller

Around Kocatarla Village, open area in the *Quercus* forest, 09.05.1996, EDTU 6830. Medit. element.

**Iridaceae****Crocus pulchellus** Herbert

Around Dereköy Village, open area in the forest, 13.10.1996, EDTU 7057. E. Medit. element.

**Orchidaceae****Neottia nidus-avis** (L.) L.C.M. Richard

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7092; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7229. Euro-Sib. element.

**Spiranthes spiralis** (L.) Chevall.

Around Dereköy Village, open area in the mixed forest, 13.10.1996, EDTU 7058.

Medit. element.

**Orchis laxifolia** Lam.

Around Kocayazı Village, open area in the forest, wet soil, 08.05.1996, EDTU 6794. Medit. element.

**Typhaceae****Typha angustifolia** L.

Around Dereköy Village, stream, 13.10.1996, EDTU 7059.

**Juncaceae**

**Juncus heldreichianus** Marsson ex Parl. subsp. **heldreichianus**

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest, wet soil, 27.06.1996, EDTU 6951. E. Medit. element.

**J. inflexus** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, 08.05.1996, EDTU 6786.

**J. effusus** L.

Between Geçitağzı and Dereköy Villages, 2<sup>nd</sup> km, open area in the *Fagus* forest, wet soil, 09.05.1996, EDTU 6817. Cosmopolitan.

**J. bufonius** L.

Between Kofcaz and Ahmetler Villages, 5<sup>th</sup> km, open area in the mixed forest, wet soil, 27.06.1996, EDTU 6967. Cosmopolitan.

**Luzula forsteri** (Sm.) DC.

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7093. Euro-Sib. element.

**L. sylvatica** (Hudson) Gaudin

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the *Quercus* forest, streamside, 29.05.1996, EDTU 6878. Euro-Sib. element.

**L. multiflora** (Ehrh. ex Retz.) Lej.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7184.

**Cyperaceae****Carex divulsa** Stokes subsp. **divulsa**

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 09.05.1996, EDTU 6904. Euro-Sib. element.

**C. muricata** L.

Around Ahlatlı Village, margin of the *Quercus* forest, 03.07.1996, EDTU 7009. Euro-Sib. element.

**C. melanostachya** Bieb. ex Willd.

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, open area in the *Fagus* forest, 09.05.1996, EDTU 6905.

**C. pallescens** L. var. *pallescens*

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, mixed forest 09.05.1996, EDTU 6879.

**C. liparicarpos** Gaudin subsp. *liparicarpos*

Between Dereköy and Bulgaria frontier, 3<sup>rd</sup> km, *Fagus* forest, 09.05.1996, EDTU 6906. Euro-Sib. element.

**Poaceae/Gramineae**

**Brachypodium sylvaticum** (Hudson) P. Beauv.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7230. Euro-Sib. element.

**B. pinnatum** (L.) P. Beauv.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7185. Euro-Sib. element.

**Agropyron cristatum** (L.) Gaertner subsp. *pectinatum* (Bieb.) Tzvelev var. *pectinatum*

Around Kocatarla Villages, open area in the *Quercus* forest, 09.05.1996, EDTU 6831.

**Aegilops speltoides** Tausch var. *speltoides*

Around Ahlatlı Village, *Quercus* forest, 03.07.1996, EDTU 7010.

**Ae. triuncialis** L. subsp. *triuncialis*

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km, open area in the *Fagus* forest, 02.06.1996, EDTU 6919.

**Bromus squarrosus** P.M. Smith.

Between Topçular Village turning and Ahmetler Village, 5<sup>th</sup> km, open area in the mixed forest, 27.06.1996, EDTU 6988.

**Avena barbata** Pott ex Link subsp. *atherantha* (C. Presl.) Rocha Afonso

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the *Quercus* forest, 18.07.1996, EDTU 6952. Medit. element.

**Gaudinia fragilis** (L.) P. Beauv.

Around Çağlayık Village, open area in the *Fagus* forest, 19.06.1996, EDTU 6939. Euro-Sib. element.

**Koeleria cristata** (L.) Pers.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, 10.07.1997, EDTU 7186; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7231.

**Aira praecox** L.

Between Dereköy and Demirköy Villages, 7<sup>th</sup> km, open area in the mixed forest, 09.05.1996, EDTU 6838. Euro-Sib. element.

**A. elegantissima** Schur subsp. *elegantissima*

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the forest, 11.07.1996, EDTU 7187. Medit. element.

**Holcus lanatus** L.

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest, slope, 27.06.1996, EDTU 6953. Euro-Sib. element.

**Apera spica-venti** (L.) P. Beauv.

Around Çağlayık Village, fieldside, 19.06.1996, EDTU 6940. Euro-Sib. element.

**Agrostis stolonifera** L.

Around Çağlayık Village, open area in the *Fagus* forest, moist soil, 19.06.1996, EDTU 6941. Euro-Sib. element.

**Anthoxanthum odoratum** L. subsp. *odoratum*

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the *Quercus* forest, 08.05.1996, EDTU 6787; 4, open area in the *Fagus* forest, 09.05.1996, EDTU 6810. Euro-Sib. element.

**Phleum subulatum** (Savi) Aschers. & Graebn. subsp. *subulatum*

Between Tatlıpınar and topçular Villages, 2<sup>nd</sup> km, *Quercus* forest, 03.07.1996, EDTU 7019; between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, *Quercus* forest, 18.07.1996, EDTU 7028.

**P. phleoides** (L.) Karsten

Between Ahmetler and Çağlayık Villages, 6<sup>th</sup> km, open area in the mixed forest, dry soil, 27.06.1996, EDTU 6954; between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the *Quercus* forest, 18.07.1996, EDTU 7029. Euro-Sib. element.

**P. exaratum** Hochst. ex Griseb. subsp. *exaratum*

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, 09.07.1997. EDTU 7151.

**Festuca gigantea** (L.) Vill.

Between Topçular and Terzidere Villages, 2<sup>nd</sup> km, open area in the *Quercus* forest, 02.07.1996, EDTU 6996; between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, 09.07.1997, EDTU 7152. Euro-Sib. element.

**F. heterophylla** Lam.

Between Kocayazı and Kula Villages, 2<sup>nd</sup> km, *Quercus* forest, 09.07.1997, EDTU 7153. Euro-Sib. element.

**F. jeanpertii** (St. Yves) F. Markgraf apud Hayek subsp. *jeanpertii*

Around Ahmetler Village, open area in the mixed forest, stony slope, 27.06.1997, EDTU 6844; between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, stony slope, 09.07.1997, EDTU 7154; between Kula and Geçitağzı Villages, around Yamkalar, open area in the *Quercus* forest, stony slope, 10.07.1997, EDTU 7188; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, rocky slope, 12.07.1997, EDTU 7232. E. Medit. element.

**F. callieri** (Hackel ex St. Yves) F. Markgraf apud Hayek subsp. *callieri*

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, *Carpinus* forest margin, 09.05.1996, EDTU 7155.

**Lolium perenne** L.

Between Kula and Geçitağzı Villages, around Yamkalar, open area in the mixed forest, 11.07.1996, EDTU 7189. Euro-sib. element.

**L. multiflorum** Lam.

Around Karaabalar Village, open area in the *Quercus* forest, 24.09.1996, EDTU 7041.

**Poa trivalis** L.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7156; between Kula and Geçitağzı Villages, around Yamkalar, *Quercus* forest, 10.07.1997, EDTU 7190.

**P. nemoralis** L.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7233.

**P. bulbosa** L.

Around Ahlatlı Village, open area in the *Quercus* forest, stony slope, 03.07.1996, EDTU 7011.

**Dactylis glomerata** L. subsp. *hispanica* (Roth) Nyman

Around Ahmetler Village, mixed forest, 27.06.1997, EDTU 7094; between Kocayazı and Kula Villages, 5<sup>th</sup> km, mixed forest, 09.07.1997, EDTU 7157; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7234.

**Cynosurus cristatus** L.

Around Karaabalar Village, open area in the *Quercus* forest, moist soil, 24.09.1996, EDTU 7042. Euro-Sib. element.

**C. echinatus** L.

Between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, mixed forest, 12.07.1997, EDTU 7235. Medit. element.

**Briza media** L.

Between Tatlıpınar and Topçular Villages, 2<sup>nd</sup> km, *Quercus* forest, 03.07.1996, EDTU 7020.

**B. maxima** L.

Between Terzidere and Taştepe Villages, 1<sup>st</sup> km, open area in the forest, 08.05.1996, EDTU 6788.

**B. minor** L.

Between Ahmetler and Karaabalar Villages, 3<sup>rd</sup> km, open area in the *Quercus* forest, 18.07.1996, EDTU 7030.

**Melica uniflora** Retz.

Around Çağlayık Village, *Fagus* forest, 19.06.1996, EDTU 6942. Euro-Sib. element.

**M. ciliata** L. subsp. *ciliata*

Around Kocatarla Village, open area in the *Quercus* forest, stony slope, 09.05.1996, EDTU 6832.

**Stipa bromoides** (L.) Dörfler

Between Dereköy and Bulgaria frontier, 5<sup>th</sup> km open area in the *Fagus* forest, 02.06.1996, EDTU 6920. Medit. element.

**Piptatherum coerulescens** (Desf.) P. Beauv.

Between Kocayazı and Kula Villages, 5<sup>th</sup> km, open area in the mixed forest, 09.07.1997, EDTU 6820; between Dereköy and Kırklareli, 5<sup>th</sup> km, Hediyebayırı, open area in the mixed forest, 12.07.1997, EDTU 7236.

**Cynodon dactylon** (L.) Pers. var. **dactylon**

Around Karaabalar Village, open area in the *Quercus* forest, 24.09.1996, EDTU 7043; between Kula and Geçitağzı Villages, around Yamkalar, roadside, 10.07.1997, EDTU 7191.

**Discussion**

Totally, 321 taxa from 65 families and 219 genera were identified and reported in this study. 4 of them belong to *Pteridophyta*, remaining 317 belong to

*Spermatophyta* which includes 253 taxa from *Dicotyledones* and 64 taxa from *Monocotyledones*.

The comparison for the percentages of the families that include the most taxa in the study area and in the

Families	In the study area (%)	Central part of the Istranca mountains (%) (12)	Ganos (Işık) mountains (%) (11)	In Thrace flora (%) (1)
<i>Poaceae</i>	11.52	5.00	3.93	9.91
<i>Asteraceae</i>	10.90	10.60	8.19	10.57
<i>Lamiaceae</i>	6.54	5.60	3.93	4.85
<i>Rosaceae</i>	5.91	5.20	6.22	2.77
<i>Scrophulariaceae</i>	4.67	3.80	4.26	3.75
<i>Caryophyllaceae</i>	4.67	5.20	4.59	4.12
<i>Brassicaceae</i>	4.04	2.60	3.27	4.48
<i>Fabaceae</i>	3.73	8.00	10.49	9.79
<i>Boraginaceae</i>	3.42	2.80	3.93	2.73
<i>Ranunculaceae</i>	2.80	4.21	2.62	2.36
<i>Liliaceae</i>	2.49	2.40	5.24	3.63

Table 1. The comparison for the percentages of the families that include the most taxa in the study area and in the neighboring areas and general of the Thrace region:

Phytogeographical elements	In the study area (%)	Central part of the Istranca mountains (%) (12)	Ganos (Işık) mountains (%) (11)
Euro-Siberian	24.92	19.80	13.11
Mediterranean	8.09	11.40	17.37
East Mediterranean	3.73	3.00	9.18
Euxine	2.18	1.20	3.60
Irano-Turanian	0.93	0.20	2.95
Hyrcano-Euxine	0.31	0.20	-
Unknown	59.81	35.60	53.77

Table 2. The percentages of the phytogeographical origins of 129 taxa that known origins in the study area and comparison to the neighbouring areas:

neighbouring areas and general of the Thrace region is seen in Table 1.

As seen table 1, the results of our study are in broad agreement with the other studies. Differences in several taxa might be the result of dissimilarities in climates and habitats.

The percentages of the phytogeographical origins of 129 taxa that known origins in the study area and comparison to the neighboring areas are seen in the Table 2:

As seen table 2, the results of our study are in broad agreement especially with the central part of the Istranca mountains (12) because of placing in the same phytogeographical region. The percentage of the Mediterranean elements in the central part is higher than the our study area. Possible explanation might be that local Mediterranean climate occurs in some areas closer to the Black Sea Region. The percentage of the Irano-Turanian elements in our study area is higher than the central parts of the Istranca mountains. This may be caused continental climate influence in our study area locally. The percentage of the Euro-Siberian elements in the western and central parts of the Istranca mountains is higher than in the Ganos mountains but, the percentages of the Mediterranean and East Mediterranean elements in the western and central parts of the Istranca mountains are lower than in the Ganos mountains. Possible explanation might be that, Ganos mountains are under the Mediterranean climate influence.

As a result, the study area is mainly under the influence of the oceanic climate which is suitable for growing Euro-Siberian, Euxine and Hyrcano-Euxine elements (12). It is clear that, Euro-Siberian region includes all of the study area. Growing of the Mediterranean and East Mediterranean elements indicate Mediterranean climate in the study area locally. Probably,

Istranca Mountains are located in the transition zone between Euro-Siberian Region and Mediterranean Region.

There are 2 endemic taxa (0.62 %) in the study area: *Anchusa leptophylla* subsp. *incana* and *Euphorbia amygdaloides* var. *robbiae*. The first taxa is endemic for all of Turkey (7). The second taxa is endemic for NW Turkey (7). The endemism ratio is 0.20% in the central part of the Istranca mountains (12) and 3.27% in the Ganos mountains (11). As seen, the endemism ratios in the Thrace region are pretty low. This is a very normal and expected result. Because, as known, Thrace region is not very high area (the higher hill is Mahya hill and about 1030 m.). In addition, Thrace region is not isolated from the other areas as geographical and has not pretty special habitats and features (special geological and soil structures, special microclimates etc.).

We found out 9 cosmopolitan taxa (2.80%) in the study area. They distribute almost all parts of the Thrace region.

The flora of the study area resembles the flora of Greece and especially Bulgaria (17). As a matter of fact, most of the plant taxa collected in the area have been given in the flora of those countries. The Euro-Siberian elements in the study area increases gradually towards Bulgaria. This resulted decreasing of the elements originated Mediterranean and Irano-Turanian Region. This is valid for the central part of the Istranca mountains (12).

Despite similarities of both the study area and Greece, the study area and the central part of the Istranca mountains have less Mediterranean elements (12). This is an expected result because Mediterranean climate is occurred only on the seashore of Black Sea and in the study area locally whilst Greece is almost completely a Mediterranean Country.



The flora of the study area resembles the flora of the south parts of European Turkey especially Ganos (Işık Mountain (11). But there are lot of differences (12).

*Fagus orientalis* is widely distributed in the study area. This species grows in the northern slopes of the study area whilst *Quercus* species distribute on the south slopes and ridges. This is caused mainly humidity and lighting period differences between north and south slopes and ridges (12).

Nine taxa are new record for Thrace Region. They are as follows:

*Paronychia polygonifolia* (Illecebraceae)  
*Sorbus aucuparia* (Rosaceae)  
*Cirsium canum* (Asteraceae)  
*Inula heterolepis* (Asteraceae)  
*Senecio doria* subsp. *umbrosus* (Asteraceae)  
*Sideritis lanata* (Lamiaceae)  
*Aira praecox* (Poaceae)  
*Piptatherum coerulescens* (Poaceae)  
*Festuca jeanpertii* subsp. *jeanpertii* (Poaceae)

We collected *Paronychia polygonifolia* (Illecebraceae) which is a taxon mainly distributed in N.W. and W. Anatolia in Turkey and S. and S.W. Europe in Europe (11). *Sorbus aucuparia* (Rosaceae), an Euro-Siberian element, which is a species found in N., N.W., E. and C. Anatolia in Turkey and throughout Europe (7) was collected in the study area. *Cirsium canum* (Asteraceae) an Euro-Siberian element, which is a taxon scattered in Anatolia in Turkey and central part of Europe to N. Balkans (7) was collected by us. Their presence in Thrace is an expected result since their distribution extend from Anatolia to Europe. *Inula heterolepis* (Asteraceae), an E. Medit. element, which is a taxon mainly distributed N.W., W. and south Anatolia (usually near the coast) in Turkey and S. Lebanon in the world (7) is in our collected materials. *Senecio doria* subsp. *umbrosus* (Asteraceae), an Euro-Siberian element is distributed only in Bolu in Turkey and central part of Europe and Bulgaria (7) was collected by us in the study area. This record is expected result. Because, Thrace region is in its scattering area. *Sideritis lanata* (Lamiaceae) an East Mediterranean element which is a taxon mainly distributed in N.W., S.W. and C. Anatolia in Turkey and in Balkans in Europe (7) is among our collected materials. *Aira praecox* (Poaceae),

an Euro-Siberian element which is known from N.W. Anatolia in Turkey and N., W. and central part of Europe, S. France and Italy (7) was collected by us. Their presences in Thrace region are also expected results since their distribution extend to the northwest Anatolia and Europe. *Piptatherum coerulescens* (Poaceae) (known W. and S. Anatolia in Turkey and south part of Europe) and *Festuca jeanpertii* subsp. *jeanpertii* (E. Medit. element, known N.W., W. and S. Anatolia and Islands in Turkey and Greece in Europe (7)) are also in our collection material. Their presences region are reasonable results since their distribution extend to the W. and N.W. Anatolia and Europe.

5 taxa given below are new records for A1 square excluding the taxa mentioned above:

*Anthemis tinctoria* var. *euxina* (Asteraceae)  
*Jasione montana* (Campanulaceae)  
*Avena barbata* subsp. *atherantha* (Poaceae)  
*Briza minor* (Poaceae)  
*Aira elegantissima* subsp. *elegantissima* (Poaceae)

A clear resembling has been observed between flora of western and central parts of the Istranca mountains. The families in the flora of the western part of the Istranca mountains are about the same with the families in the flora of the central part of the Istranca mountains. But, *Adiantaceae*, *Athyriaceae* (Pteridophyta) and *Cuscutaceae* families are represented in the western part of the mountain, but are not represented in the central part (12). In addition, some families are represented in the central part of the mountain but not in the western part. For instance; *Aspleniaceae* (Pteridophyta), *Pinaceae*, *Taxaceae*, *Ephedraceae* (Gymnospermae), *Capparaceae*, *Polygalaceae*, *Tamaricaceae*, *Vitaceae*, *Rhamnaceae*, *Celastraceae*, *Trapaceae*, *Haloragidaceae*, *Orobanchaceae*, *Verbenaceae*, *Plumbaginaceae*, *Cannabaceae*, *Ulmaceae*, *Platanaceae*, *Ceratophyllaceae*, *Butomaceae*, *Alismataceae*, *Najadaceae*, *Potamogetonaceae*, *Lemnaceae*, *Amaryllidaceae* and *Iridaceae* families were not observed in the western part. As known, some of these families (*Trapaceae*, *Ceratophyllaceae*, *Butomaceae* etc.) are observed in the aquatic habitats. Generally, there are not aquatic habitats in the western part of the mountains. Some families that represented in the central part but not represented in the western part need special habitats. For example, *Tamaricaceae* family is observed in the salinic and/or dry habitats, especially in coastal

habitats. But there are not this kind of the habitats in the western part of the mountain.

As a result, the Istranca Mountains have a very rich flora because of mainly its different climates and habitats (12). But, unfortunately, this flora has been destroyed by tree cutting and as well as grazing cattle and goats. Therefore, it is important that this area should be taken under protection as a Natural Reserve Area before it is too late.

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