

## Flora of the Area between Amasya Castle and the Villages of Vermiş and Yuvacık

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**Abstract:** This study covers the flora of the area between Amasya Castle and the villages of Vermiş and Yuvacık. In 1994, 670 plant specimens were collected in the study area and examined. At the end of the study, 75 families, 287 genera and 412 species were determined. The total number of taxa was found to be and 412 species were determined. The total number of taxa was found to be 420, 46 (10.95%) of which are endemic. The distribution rates of the specimens into phytogeographical regions are as follows: Irano-Turanian, 15.71%; Mediterranean, 9.52%; and Euro-Siberian, 7.38%.

**Key Words:** Flora, Amasya

### Vermiş - Yuvacık Köyleri ve Amasya Kalesi Arasında Kalan Bölgenin Florası

**Özet:** Bu araştırma Vermiş-Yuvacık Köyleri ve Amasya Kalesi arasında kalan bölgenin florasını kapsamaktadır. Araştırma alanından toplanan 670 bitki örneğinin değerlendirilmesiyle 75 aile ve 287 cins'e ait toplam takson sayısı 420 olarak bulunmuştur. Tespit edilen bu taksonların 46 tanesi (%10.95) endemiktir. Taksonların fitocoğrafik bölgelere dağılım oranları İran-Turan %15.71, Akdeniz %9.52 ve Avrupa-Sibirya %7.38 şeklindedir.

**Anahtar Sözcükler:** Flora, Amasya

### Introduction

One of the main reasons for studying the area between Amasya Castle and the villages of Vermiş and Yuvacık is that Amasya has an unusual geographical location as the junction between the Irano-Turanian and Euro-Siberian phytogeographic regions. Furthermore, as the research area is included Yeşilirmak Valley, it was possible to collect elements of the Mediterranean phytogeographical region. The presence of endemics and many different kinds of plant species at the border of junction of different phytogeographic regions is another reason for planning a floristic study in this area (1).

This area is completely surrounded by the provincial borders of Amasya. Amasya is a city on the border of Northern and Central Anatolia, and the study area is in the west of Amasya, surrounded by mountains: Kırklar Mountain in the north, Ferhat Mountain in the south, Karaman Mountain in the west and Lokman Mountain in the south-east. Yuvacık Village is in the north-west and Amasya Castle in the north-east of the research area. This area is bounded by Lokman Mountain in the south-east

and Vermiş village and Kirazlıdere, also mentioned in "The Flora of Turkey". In the study area, the Ferhatkaya Formation includes lower cretaceous and the Lokman Formation includes upper cretaceous (2). In this study area, alluvion masses, volcanic facies belonging to the eosen age, metamorphic series from the paleozoic age and calcareous masses belonging to the permian age have rarely been found (3).

The dominant bioclimatic level in Amasya is semi-dry Mediterranean, which is very cold in the winter (4). Although Amasya is a South Black Sea city, it has a harsher climate than other cities of the region and is thus the driest. Rainfall is lower by degrees from the north to the south of the city (5). The study area is composed of bare rock, rubble and four types of soil: chestnut colour, alluvial, colluvial and red-brown (5, 6, 7).

### Material and Method

Plant were identified in the herbarium at the Faculty of Arts and Science at Gazi University (8, 9, 10), and

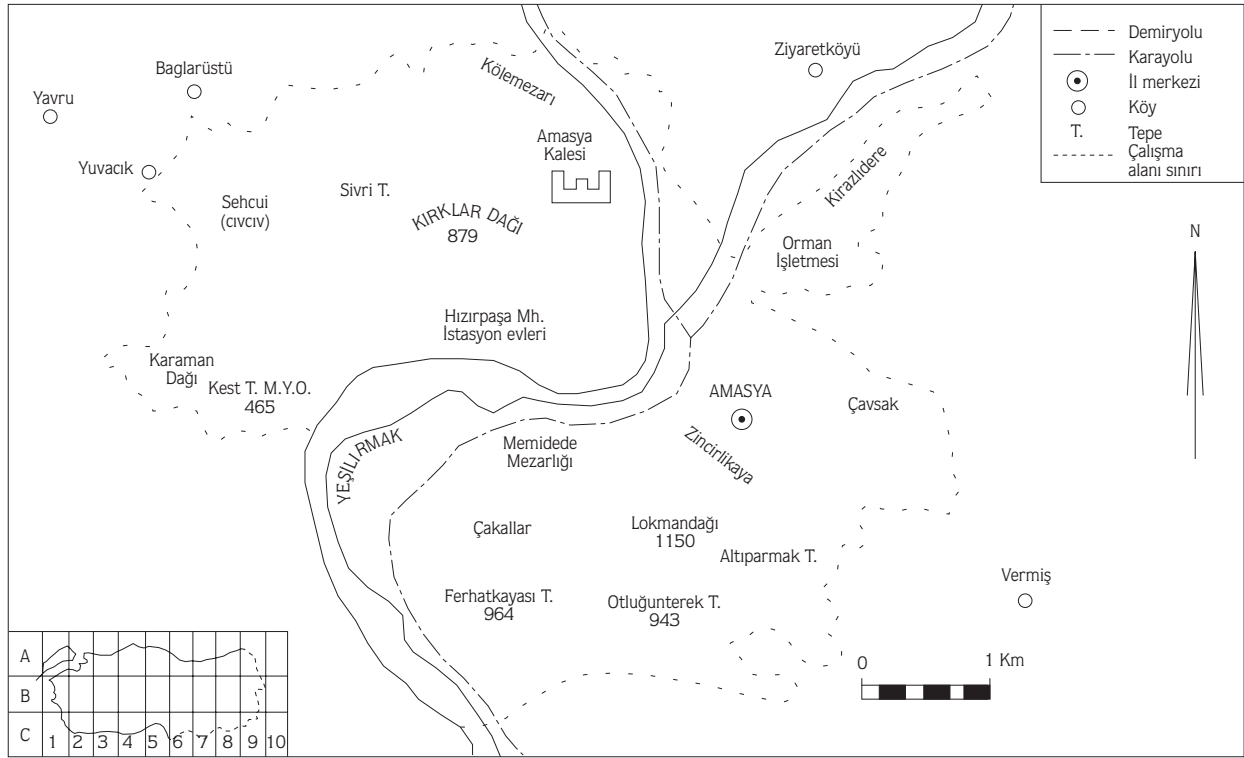


Figure 1. Topographical map of research area

doubtful plant samples were examined in the herbarium at the Faculty of Science at Ankara University (ANK). Samples were preserved in the newly established herbarium at the Amasya Faculty of Education.

Climatic data and the map of the research area were provided by the Meteorology Directorate office of Amasya (11) and Governorship of Amasya, respectively. In formation on the geology (2, 3) and soil structure (4, 6, 7) of this area was obtained from M.T.A., the Directorate of Village Affairs and the Directorate of Soil and Water Affairs.

The Flora is listed in the appendix at the end of the paper.

Taxa in the floristic list are given according to the phylogenetic order in "The Flora of Turkey and the East Aegean Islands" by P.H. Davis. The name of the plant species and the author is followed by locality of the plant specimens, habitat (where it was collected), height, collection date, collector's name and number. Lastly, whether the plant is endemic and which phytogeographical region it belongs to are recorded. "A5 Amasya" is dropped from all localities, because all the stations of the collected samples have it. Not all stations were recorded, in order to avoid repetition.

Abbreviations used in the text and the appendix areas follows:

Medit.: Mediterranean	Ir.-Tur: Irano-Turanian
Euro.-Sib.: Euro-Siberian	M.Y.O.: Meslek Yüksek Okulu
A.Cast.: Amasya Castle	M.T.A.: Maden Tetkik Arama
A.E.F.: Amasya Educational Faculty	Ö.: Euxine
Y.vill: Yuvacık village	H.Ö.: Hirkan -Euxin
El.: Element	
S.S.K.: Sosyal Sigortalar Kurumu	
End.: Endemic	

## Discussion

In this study, 670 plants were collected from the study area; a total of 420 taxa were determined, including 75 families and 287 genera. One taxon belongs to Pteridophyta, and all of others are composed of Spermatophyta. Gymnospermae and Angiospermae are represented by 5 and 419 taxa, respectively. The distribution rates of the specimens to floristic regions is given in Table 1, where it can be seen that most of the samples are Irano-Turanian elements. Steppic characters

are dominant because of biotic factors such as agriculture, grazing, recently established picnic areas and forest exploitation. The first ten families with the highest species number are shown in Table 2, and the genera with the highest species number in Table 3.

Table 1. Distribution of the species into the floristic regions and their rates (%).

Irano-Turanian Elements	70	%15.71
Mediterranean Elements	40	%9.52
Euro-Siberian Elements	31	%7.38
Widespread	277	%67.61

Table 2. The largest ten families

Familia	Genera	Species	%Species
Compositae	32	46	11.16
Labiatae	18	38	9.22
Leguminosae	17	33	8.00
Gramineae	23	28	6.79
Cruciferae	20	23	5.58
Umbelliferae	15	16	3.88
Boraginaceae	11	16	3.88
Rosaceae	13	15	3.64
Liliaceae	9	13	3.15
Scrophulariaceae	6	13	3.15
Other families	123	177	42.96

Being the largest family of **Compositae** is related to being the largest family of the flora of Turkey, having many family members and greater ecological toleration and breaking up seeds easily. The **Labiatae** family is the second order, because most members of this family have Irano-Turanian distributions, and the Irano-Turanian phytogeographic region occupies quite large territory in the study area. The reason **Leguminosae** is in the third order, is that it is the second largest family of the flora of Turkey and has wide toleration limits and involves large genera containing many species.

Table 3. Species totals of the large genera in the study area

Genus	Number of Species	Genus	Number of Species
Astragalus	10	Verbascum	5
Salvia	9	Centaurea	4
Convolvulus	5	Linum	4
Euphorbia	5	Scabiosa	4
Silene	5	Sedum	4

The reason **Astragalus** is in the first order, is that it is the largest genus, represented by the most species in Turkey (12). Furthermore, the study area is mostly steppic in character.

These results were compared with other studies carried out on the transition zone according to percentages of distribution of the species in the phytogeographical regions.

Table 4. The percentages of the distribution of the species in the floristic regions are from four floristic studies carried out in Turkey.

	Research Area			
	Dumanlı	Gâvur	Deveci	Between
Phytogeographic Region	Mountain (Çankırı)	Mountains (Erzurum)	Mountains (Yozgat-Tokat)	Vermiş Yuvacık villages and A. Cast.
Iranio-Turanian	15.2	44	37.8	15.71
Euro-Siberian	13.4	38	15.9	7.38
Mediterranean	6.6	2	10.1	9.52

As can be seen in Table 4, Irano-Turanian elements have the highest value at the transition zone between Irano-Turanian and Euro-Siberian, followed by Euro-Siberian elements. The highest values were determined for Irano-Turanian elements, followed by Mediterranean elements, due to the effects of Yeşilirmak. The Mediterranean elements which are mostly from the Tertiary period, grow in the Mediterranean enclaves

which occur along the Yeşilirmak Valley. This valley was the means of Mediterranean penetrations.

In the research area, it was determined that 46 (11%) of the plant specimens are endemic and 28 are Irano-Turanian. Furthermore, three of the endemic species are Mediterranean and one is a Euro-Siberian element. The phytogeographic region of the 14 endemic taxa is unknown. Only three species were found to be endemic to Amasya; *Erysimum amasianum* Alkanna haussknechtii and *Scorzonera amasiana* Hausskn & Bornm. In regard to the Flora of Turkey, there are 14 species known from Amasya, only three of which were collected. The main reason for this is probably excessive deformation and the altitude of the area mostly lower than 800 m., since these species are commonly distributed between 1500-2000 m of altitude.

No significant differences in the characteristics of

identified samples were recorded when they were compared with the descriptions in "Flora of Turkey and the East Aegean Islands". However, single-flowered stems were determined in "*Scorzonera amasiana*", contrary to the 2-3 flowered stems recorded in Flora of Turkey.

Except for the article published on the medical uses of plants, by Alpınar, K. (16), there are no published scientific studies on the immediate region.

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### Appendix

#### PTERIDOPHYTA

#### ASPIDACEAE

*Dryopteris filix-mas* (L.) Schott

Ferhat Dağı, N slopes; 700 m.,

25.VI.1994, *Cansaran* 506.

#### SPERMATOPHYTA

#### GYMNOSPERMAE

#### PINACEAE

*Pinus nigra* Arn. subsp. *pallasiana*

(Lamb.) Holmboe

Ferhat Dağı, N slopes; 600 m.,

27.II.1994, *Cansaran* 21.

#### CUPRESSACEAE

*Cupressus sempervirens* L.

Ferhat Dağı, N slopes, Memidede

Cemetery surroundings; 400 m. 27.II.1994, *Cansaran* 26.

*Juniperus oxycedrus* L. subsp.

*macrocarpa* (Sibth. & Sm) Ball

Lokman Dağı, S slopes; 640 m.,

27.II.1994, *Cansaran* 20. Medit. El.

*Juniperus excelsa* Bieb.

Ferhat Dağı, NW slopes; 650 m.,

27.II.1994, *Cansaran* 23.

**EPHEDRACEAE**

*Ephedra major* Host

Ferhat Dağı, NW slopes; 640 m.

27.II.1994, *Cansaran* 22.

**ANGIOSPERMAE**

**DICOTYLEDONES**

**RANUNCULACEAE**

*Nigella arvensis* L. var. *glauca* Boiss.

Karaman Dağı, E slopes; 500 m.,

10.VII.1994, *Cansaran* 569.

*Consolida orientalis* (Gay) Schröd.

Kırklar Dağı, N slopes, vicinity of

Tekirdede Mezarlığı, steppe; 400 m.,

22.V.1994, *Cansaran* 322.

*Anemone blanda* Schoot & Kotschy

Kırklar Dağı, W slopes; 705 m.,

14.III.1994, *Cansaran* 55.

*Clematis vitalba* L.

2 km SW of Y. vill., stream bank; 820 m.,

19.VI.1994, *Cansaran* 470.

*Adonis aestivalis* L. subsp. *aestivalis*

Karaman Dağı, N slopes, S of Y. vill. 840

m., 24.IV.1994, *Cansaran* 183.

*Ranunculus oxyspermus* Willd.

Lokman Dağı, NE slopes, Çakallar

surroundings; 570 m., 18.IV.1994, *Cansaran*

141-B.

*R. argyurus* Boiss.

Karaman Dağı, N slopes, S of Y. vill., 820

m., 24.IV.1994, *Cansaran* 189.

*R. arvensis* L.

Lokman Dağı, N slopes, 2 km SW of

Vermiş village, 610 m., 05.VI.1994,

*Cansaran* 403.

*Ceratocephalus falcatus* (L.) Pers.

Kırklar Dağı, SW slopes; 650 m.,

03.IV.1994, *Cansaran* 89.

**BERBERIDACEAE**

*Berberis vulgaris* L.

Ferhat Dağı, NW slopes; 710 m.,

18.IV.1994, *Cansaran* 135.

**PAPAVERACEAE**

*Glaucium corniculatum* (L.) Rud. subsp. *refractum* (Nab.) Cullen

Ferhat Dağı, N slopes, Medidede

Cemetery surroundings, roadsides; 460 m.,

25.VI.1994, *Cansaran* 492.

*Papaver rhoeas* L.

Ferhat Dağı, N slopes, Memidede

Cemetery surroundings meadows; 430 m.,

25.VI.1994, *Cansaran* 485.

*P. lacerum* Popov

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings, roadsides; 400 m.,

10.IV.1994, *Cansaran* 119.

*Hypocoum procumbens* L.

A.E.F. Garden; 400 m., 04.IV.1994,

*Cansaran* 110. *Medit. El.*

*H. imberbe* Sibth. & Sm.

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings, roadsides; 400 m.,

10.IV.1994, *Cansaran* 128.

*Fumaria vaillantii* Lois.

Kırklar Dağı, S slopes, vicinity of S.S.K.

Hospital, 450 m., 03.IV.1994, *Cansaran* 88.

*F. asepala* Boiss.

Lokman Dağı, N slopes, 2 km. SW of

Vermiş village; 610 m., 05.VI.1994,

*Cansaran* 402. *Ir.-Tur. El.*

**CRUCIFERAE (BRASSICACEAE)**

*Sinapis arvensis* L.

Meydanbağları surroundings; road sides,

400 m., 29.V.1994, *Cansaran* 399.

*Calepina irregularis* (Asso) Thellung

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings, roadsides; 400 m.,

10.IV.1994, *Cansaran* 127.

*Lepidium perfoliatum* L.

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings, steppe; 500 m.,

10.IV.1994, *Cansaran* 116.

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

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings; roadsides; 450 m.,

10.IV.1994, *Cansaran* 117.

*Iberis taurica* DC.

Karaman Dağı, N slopes, S of Y. vill.,

steppe; 820 m., 24.IV.1994, *Cansaran* 188.

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

Kırklar Dağı, SW slopes, 490 m.,

20.V.1994, *Cansaran* 308.

*Ae. armenum* Boiss.

Kırklar Dağı, E slopes, NW of A. Cast;

740 m., 22.V.1994, *Cansaran* 328. *Ir.-Tur.El.*

*Thlaspi perfoliatum* L.

Ferhat Dağı, NW slopes, stony places,

730 m., 20.III.1994, *Cansaran* 62.

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

Meydanbağları surroundings, cultivated

land; 400 m., 14.V.1994, *Cansaran* 254.

*Boreava orientalis* Jaub. & Spach

Karaman Dağı, N slopes, S of Y. vill.; 890

m., 24.IV.1994, *Cansaran* 176. (det. H.

Duman)

*Fibigia eriocarpa* (DC.) Boiss.

Lokman Dağı, N slopes; 690 m.,

10.IV.1994, *Cansaran* 134.

*Alyssum desertorum* Stapf. var.

*desertorum*

Kırklar Dağı, N slopes; 440 m.,

08.V.1994, *Cansaran* 244.

*A. strigosum* Banks & Sol. subsp.

*cedrorum* (Schoot & Kotschy) Dudley

Kırklar Dağı, SW slopes; 490 m.,

20.V.1994, *Cansaran* 309.

*A. pateri* Nyar subsp. *pateri*

Ferhat Dağı, N slopes, 740 m.,

18.IV.1994, *Cansaran* 154. *End. Ir.-Tur.El.*

*A. pateri* Nyar subsp. *prostratum*

(Nyar.) Dudley

Ferhat Dağı, NW slopes; 660 m.,

18.IV.1994, *Cansaran* 151.

*Draba bruniifolia* Stev. subsp.

*heterocoma* (Fenzl) Coode & Cullen var.

*heterocoma*

Kırklar Dağı, vicinity of A. Cast., stony

places; 690 m., 14.III.1994 *Cansaran* 52.

*Erophila verna* (L.) Chevall.

Ferhat Dağı, SW slopes; 740 m.,

14.III.1994, *Cansaran* 63.

*Arabis caucasica* Willd. subsp.

*caucasica*

Ferhat Dağı, SW slopes, stony places,

650 m., 20.III.1994, *Cansaran* 65.

*Barbarea plantaginea* DC.

Kırklar Dağı, N slopes, Tekirdede

Cemetery surroundings, roadsides; 450 m.,

10.IV.1994, *Cansaran* 125.

*Matthiola longipetala* (Vent.) DC. subsp.

*bicornis* (Sibth. & Smith) P.W.Ball

Karaman Dağı, NE slopes; 580 m.,

01.III.1994, *Cansaran* 44.

*Hesperis bicuspidata* (Willd.) Poir.

Ferhat Dağı, N slopes; 710 m., 18.IV.1994, *Cansaran* 156.

*Erysimum amasianum* Hausskn. & Bornm.

Vicinity of A. Cast.; 600 m., 14.V.1994, *Cansaran* 669. End.

*Alliaria petiolata* (Bieb.) Cavara & Grande

Lokman Dağı, Çakallar surroundings; 550 m., 18.IV.1994, *Cansaran* 143. (det. Z. Aytaç)

*Sobolewsia clavata* (Boiss.) Fenzl

Ferhat Dağı, N slopes, 740 m., 18.IV.1994, *Cansaran* 160. (det.H.Duman)

#### CAPPARACEAE

*Capparis ovata* Desf. var. *herbacea* (Willd.) Zoh.

Karaman Dağı, E slopes, forest; 590 m., 29.V.1994, *Cansaran* 396.

#### RESEDACEAE

*Reseda lutea* L. var. *lutea*

Ferhat Dağı, N slopes, Memidede Cemetery surroundings, 440 m., 25.VI.1994, *Cansaran* 494.

#### CISTACEAE

*Cistus creticus* L.

Kırklar Dağı, E slopes, NW of A. Cast.; 690 m., 22.V.1994 *Cansaran* 333.

*Helianthemum nummularium* (L.)

Miller subsp. *tomentosum* (Scop.) Schinz & Thellung

Vicinity of A. Cast., NW slopes; 530 m., 22.V.1994, *Cansaran* 335.

*H. canum* (L.) Baumg. Grup a

Ferhat Dağı, N slopes; 430 m., 15.V.1994, *Cansaran* 278.

#### VIOLACEAE

*Viola sieheana* Becker

Lokman Dağı, NE slopes, Çakallar surroundings; 570 m., 18.IV.1994 *Cansaran* 141-A.

*V. kitaibeliana* Roem. & Schult

Kırklar Dağı, E slopes, Vicinity of A. Cast.; 640 m., 14.III.1994, *Cansaran* 59.

#### POLYGALACEAE

*Polygala supina* Schreb.

Kırklar Dağı, N slopes; 440 m., 08.V.1994, *Cansaran* 234.

*P. monspeliaca* L.

Karaman Dağ, N slopes, SW of Y. vill.; 840 m., 24.IV.1994, *Cansaran* 184. Medit. El.

#### PORTULACACEAE

*Portulaca oleracea* L. subsp. *oleracea*

Meydanbağları surroundings, cultivated land, 400 m., 07.VI.1994 *Cansaran* 556.

#### CARYOPHYLLACEAE

*Minuartia corymbulosa* (Boiss. & Bal.)

McNeill var. *corymbulosa*

Kırklar Dağı, N slopes; 530 m., 08.V.1994, *Cansaran* 224. End. Ir.-Tur. El.

*M. mesogitana* (Boiss.) Hand.-Mazz.

subsp. *lydia* (Boiss.) McNeill

Kırklar Dağı, SW slopes; 470 m., 20.V.1994, *Cansaran* 291-B, End. E. Medit. El.

*Cerastium anomalum* Waldst. & Kit.

Lokman Dağı, N slopes, Çakallar surroundings; 680 m., 18.IV.1994, *Cansaran* 137.

*Holosteum umbellatum* L. var. *tenerrimum* (Boiss.) Gay

Ferhat Dağı, N slopes; 460 m., 20.III.1994, *Cansaran* 69.

*Dianthus zonatus* Fenzl var. *zonatus*

Kırklar Dağı, N slopes; 630 m., 19.VI.1994, *Cansaran* 455.

*Saponaria officinalis* L.

Vicinity of Amasya Stadium, 400 m., 10.VII.1994, *Cansaran* 599.

*Silene chlorifolia* Sm.

Ferhat Dağı, N slopes; 570 m., 05.VI.1994, *Cansaran* 413. Ir.-Tur. El. (det. H. Duman).

*S. otites* (L.) Wibel

Ferhat Dağı, N slopes; 600 m., 25.VI.1994, *Cansaran* 496.

*S. spergulifolia* (Desf.) Bieb.

Kırklar Dağı, N slopes; 530 m., 08.V.1994, *Cansaran* 221. (det. H. Duman)

*S. caryophylloides* (Poir.) Otth subsp. *subulata* (Boiss.) Coode & Cullen

Ferhat Dağı, N slopes, Memidede surroundings; 510 m., 15.V.1994, *Cansaran* 280. (det. H. Duman)

*S. alba* (Miller) Krause subsp. *ericalcynica* (Boiss.) Walters

Ferhat Dağı, NW slopes, forest, 420 m., 18.IV.1994, *Cansaran* 131.

*Agrostemma githago* L.

Ferhat Dağı, N slopes; 420 m., 15.V.1994, *Cansaran* 282.

#### ILLECEBRACEAE

*Herniaria micrantha* A.K.Jackson & Turill

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings; 1200 m., 03.VII.1994, *Cansaran* 532. E. Medit. El. (det. H. Duman)

*Paronychia kurdica* Boiss. subsp. *kurdica* var. *kurdica*

Kırklar Dağı, E slopes; NW of A. Cast.; 720 m., 22.V.1994 *Cansaran* 332.

#### POLYGONACEAE

*Polygonum salicifolium* Brouss. ex Willd.

Karaman Dağı, S slopes; 500 m., 10.VII.1994, *Cansaran* 584.

*P. lapathifolium* L.

Vicinity of Kurtboğan bridge, watery area; 400 m., 11.IX.1994, *Cansaran* 634.

*P. arenastrum* Bor.

Karaman Dağı, S slopes; 500 m., 10.VII.1994, *Cansaran* 583.

*Rumex patientia* L.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 500 m., 16.V.1994, *Cansaran* 670.

#### CHENOPODIACEAE

*Chenopodium botrys* L.

Karaman Dağı, S slopes, open forests, 500m., 10.VII.1994, *Cansaran* 581.

*C. murale* L.

Meydanbağları place, cultivated land; 400 m., 09.VIII.1994, *Cansaran* 610.

*Salsola ruthenica* Iljin

Şehcui place, vicinity of M.Y.O.; 480 m., 11.IX.1994, *Cansaran* 638.

*Noaea mucronata* (Forssk.) Aschers. & Schweinf. subsp. *mucronata*

Ferhat Dağı, N slopes, steppe; 500 m., 02.X.1994, *Cansaran* 655.

#### AMARANTHACEAE

*Amaranthus retroflexus* L.

Vicinity of Amasya Stadium, edge of

Yeşilırmak River; 400 m., 11.IX.1994, *Cansaran* 635.

*A. blitoides* S. Wats.

Vicinity of Amasya Stadium, edge of Yeşilırmak River; 400 m., 11.IX.1994, *Cansaran* 639-B.

*A. albus* L.

Vicinity of Amasya Stadium, edge of Yeşilırmak River; 400 m., 11.IX.1994, *Cansaran* 639-A.

#### TAMARICACEAE

*Tamarix parviflora* DC.

Meydanbağları surroundings, roadsides; 400 m., 05.VII.1994, *Cansaran* 547.

#### HYPERICACEAE (GUTTIFERAE)

*Hypericum pseudolaeve* Robson

Kırklar Dağı, E slopes, vicinity of A. Cast.; 730 m., 22.V.1994, *Cansaran* 329. End. Ir.-Tur.El.

#### MALVACEAE

*Hibiscus trionum* L.

Karaman Dağı, E slopes, open forests; 500 m., 10.VII.1994, *Cansaran* 572.

*Malva sylvestris* L.

Meydanbağları surroundings, roadsides; 400 m., 29.V.1994, *Cansaran* 400.

*M. neglecta* Wallr.

Lokman Dağı, N slopes, 2 km. SW of Vermiş village; steppe, 860 m., 05.VI.1994, *Cansaran* 426.

*Lavatera punctata* All.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings, 450 m., 25.VI.1994, *Cansaran* 495.

*Alcea pallida* Waldst. & Kit.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings, roadsides; 420 m., 15.VI.1994, *Cansaran* 433.

#### LINACEAE

*Linum nodiflorum* L.

Kırklar Dağı, SW slopes; 610 m., 20.V.1994, *Cansaran* 294. Medit. El.

*L. olympicum* Boiss.

Karaman Dağı, N slopes, 2 km. SW of Y. vill., 830 m., 19.VI.1994, *Cansaran* 473. End.

*L. tenuifolium* L.

Kırklar Dağı, SW slopes; 550 m.,

20.V.1994, *Cansaran* 296.

*L. austriacum* L. subsp. *austriacum*

Kırklar Dağı, E slopes, NW of A. Cast.; 650 m., 22.V.1994, *Cansaran* 338.

#### GERANIACEAE

*Geranium rotundifolium* L.

Kırklar Dağı, N slopes; 420 m., 08.V.1994, *Cansaran* 242.

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

Ferhat Dağı, N slopes, Memidede Cemetery surroundings, 550 m., 15.V.1994, *Cansaran* 265.

*G. macrostylum* Boiss.

Karaman Dağı, N slopes, S of Y. vill.; 830 m., 24.IV.1994, *Cansaran* 181. E. Medit. El.

*Erodium ciconium* (L.) L. Herit.

Kırklar Dağı, E slopes, NW of A. Cast.; 500 m., 22.V.1994, *Cansaran* 626.

*E. cicutarium* (L.) L. Herit. subsp. *cicutarium*

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 561.

#### ZYGOPHYLLACEAE

*Zygophyllum fabago* L.

Kırklar Dağı, N slopes, vicinity of Tekirdede Cemetery, roadsides; 460 m., 22.V.1994, *Cansaran* 323. Ir.-Tur. El.

*Tribulus terrestris* L.

Vicinity of A.E.F., edge of railways; 400 m., 02.X.1994, *Cansaran* 657.

*Peganum harmala* L.

Karaman Dağı, E slopes; 520 m., 29.V.1994, *Cansaran* 372.

#### RUTACEAE

*Ruta montana* (L.) L.

Karaman Dağı, N slopes, 2 km. SW of Y. vill., stony places; 900 m., 19.VI.1994, *Cansaran* 445.

*Haplophyllum armenum* Spach

Karaman Dağı, N slopes, 1 km. SW of Y. vill., stony places; 825 m., 24.IV.1994, *Cansaran* 195. End.

#### SIMAROUBACEAE

*Ailanthus altissima* (Miller) Swingle

Meydanbağları surroundings, vicinity of Yeşilırmak River; 400 m., 23.V.1994, *Cansaran* 349.

#### ACERACEAE

*Acer negundo* L.

Vicinity of A.E.F., edge of railways; 400 m., 21.IV.1994, *Cansaran* 172. culture.

#### RHAMNACEAE

*Paliurus spina - chirsti* Miller

Ferhat Dağı, NW slopes; 700 m., 18.IV.1994, *Cansaran* 153.

*Rhamnus petiolaris* Boiss.

Ferhat Dağı, N slopes; 750 m., 25.VI.1994, *Cansaran* 500. End.

#### ANACARDIACEAE

*Pistacia vera* L.

Karaman Dağı, N slopes, S of Y. vill.; 570 m., 24.IV.1994, *Cansaran* 197. Ir.-Tur.El.

*P. terebinthus* L. subsp. *palaestina* (Boiss.) Engler

2 Km. NW of Y. vill., 850 m., stony places; 09.VIII.1994, *Cansaran* 616. E. Medit. El.

#### FABACEAE (LEGUMINOSAE)

*Gleditsia triacanthos* L.

Vicinity of Amasya Stadium, damp places; 400 m., 10.VII.1994, *Cansaran* 587.

*Sophora alopecuroides* L. var. *alopecuroides*

Vicinity of A.E.F., edge of railways; 400 m., 06.VI.1994, *Cansaran* 428.

*Genista albida* Willd.

Karaman Dağı, W slopes, S of Y. vill.; 825 m., 24.IV.1994, *Cansaran* 191.

*Colutea cilicica* Boiss. & Bal.

Kırklar Dağı, N slopes; 800 m., 22.V.1994, *Cansaran* 331.

*Astragalus leucothrix* Freyn & Bornm.

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings; 550 m., *Cansaran* 325. End. Ir.-Tur. El.

*A. pseudocaspius* Fischer

2 km. S of Bağlarüstü village, steppe, 880 m., 19.VI.1994, *Cansaran* 479. End.

*A. barba - jovis* DC. var. *barba - jovis*

Lokman Dağı, E slopes, vicinity of Kirazlıdere place; 1380 m., 03.VII.1994, *Cansaran* 545. End. Ir.-Tur. El.

*A. albilfolius* Freyn & Sint.

Ferhat Dağı, N slopes; 500 m., 25.VI.1994, *Cansaran* 515. End. Ir.-Tur. El.

*A. andrachneifolius* Fenzl

Karaman Dağı, vicinity of M.Y.O., forest, 550 m., 29.V.1994, *Cansaran* 384.

**A. podperae** Sirj.

E of Karaman Dağı; 500 m., 29.V.1994, *Cansaran* 394. End. Ir.-Tur. El.

**A. brachypterus** Fischer

Kırklar Dağı, E slopes, steppe; 700 m., 22.V.1994, *Cansaran* 343-A. End. Ir.-Tur. El.

**A. karamasicus** Boiss. & Bal.

E of Karaman Dağı; 630 m., 29.V.1994, *Cansaran* 363. End. Ir.-Tur. El.

**A. sigmoideus** Bunge

Ferhat Dağı, N slopes, Memidede Cemetery surroundings, 420 m., 15.V.1994, *Cansaran* 257. End.

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

Karaman Dağı, E slopes; vicinity of M.Y.O., forest; 550 m., 29.V.1994, *Cansaran* 392. (det. Z. Aytaç).

**Psoralea bituminosa** L.

Karaman Dağı, E slopes, steppe; 490 m., 29.V.1994, *Cansaran* 381. Medit. El.

**Cicer arietinum** L.

Kırklar Dağı, N slopes, vicinity of Tekirdede Cemetery, field margins, 450 m., 13.VII.1994, *Cansaran* 602. cultivated plant.

**Vicia cracca** L. subsp. **stenophylla** Vel.

Ferhat Dağı, K slopes; 700 m., 25.VI.1994, *Cansaran* 497.

**V. sativa** L. subsp. **sativa**

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings, roadsides; 400 m., 10.IV.1994, *Cansaran* 124.

**V. sativa** L. subsp. **incisa** (Bieb.) Arc. var. **cordata** (Wulfen ex Hoppe) Arc.

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings, roadsides; 400 m., 10.IV.1994, *Cansaran* 123.

**V. narbonensis** L. var. **narbonensis**

Karaman Dağı, N slopes, S of Y. vill.; 900 m., 24.IV.1994, *Cansaran* 177.

**Lathyrus setifolius** L.

Ferhat Dağı, N slopes; Memidede Cemetery surroundings, 490 m., 15.V.1994, *Cansaran* 262. Medit. El.

**Ononis spinosa** L. subsp. **leiosperma**

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings; 1400 m.,

03.VII.1994, *Cansaran* 540.

**Trifolium repens** L. var. **repens**

Karaman Dağı, N slopes, S of Y. vill.; 410 m., 24.IV.1994, *Cansaran* 199.

**T. pratense** L. var. **pratense**

A.E.F. Garden; 400 m., 06.V.1994, *Cansaran* 219.

**T. arvense** L. var. **arvense**

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings, 1140 m., 03.VII.1994, *Cansaran* 526.

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

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 450 m., 15.V.1994, *Cansaran* 290.

**M. alba** Desr.

Lokman Dağı, E Slopes, vicinity of Kirazlıdere surroundings; 980 m., 03.VII.1994, *Cansaran* 524.

**Trigonella filipes** Boiss.

Kırklar Dağı, SW slopes; 500 m., 20.V.1994, *Cansaran* 305. Ir.-Tur.El.

**Medicago lupulina** L.

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings, road sides; 450 m., 10.IV.1994, *Cansaran* 122.

**M. sativa** L. subsp. **sativa**

E of Karaman Dağı; 520 m., 29.V.1994, *Cansaran* 369.

**Coronilla emerus** L. subsp. **emeroides** (Boiss. & Sprun.) Uhrova

Ferhat Dağı, NW slopes, steppe; 710 m., 18.IV.1994, *Cansaran* 163.

**C. varia** L. subsp. **varia**

E of Karaman Dağı, 500 m., 29.V.1994, *Cansaran* 391.

**Hedysarum varium** Billd.

E of Karaman Dağı; 600 m., 29.V.1994, *Cansaran* 370. Ir.-Tur.El.

**Onobrychis montana** DC., subsp. **cadmea** (Boiss.) P.W. Ball

Ferhat Dağı, N slopes; 500 m., 15.V.1994, *Cansaran* 281.

## ROSACEAE

**Cerasus prostrata** (Lab.) Ser. var. **prostrata**

Kırklar Dağı, S slopes, steppe; 540 m., 03.IV.1994, *Cansaran* 94.

**C. mahaleb** (L.) Miller var. **mahaleb**

E of Karaman Dağı, 500 m., 10.VII.1994, *Cansaran* 589.

**Amygdalus communis** L.

Ferhat Dağı, N slopes; 540 m., 20.III.1994, *Cansaran* 75.

**Rubus sanctus** Schreber

Vicinity of Amasya Stadium, humid places; 400 m., 15.VI.1994, *Cansaran* 431.

**R. canescens** DC. var. **canescens**

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings, 1430 m., 03.VII.1994, *Cansaran* 542.

**Potentilla recta** L. **Grup B**

Karaman Dağı, E slopes, vicinity of M.Y.O., open forests; 550 m., 29.V.1994, *Cansaran* 395.

**Fragaria vesca** L.

Karaman Dağı, vicinity of Y. vill., field margins; 600 m., 10.VII.1994, *Cansaran* 563. cultivated plant.

**Agrimonia eupatoria** L.

E of Karaman Dağı, watery places; 500 m., 10.VII.1994, *Cansaran* 590.

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

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 510 m. 15.V.1994, *Cansaran* 269.

**Rosa canina** L.

Lokman Dağı, N slopes, Çakallar surroundings; 650 m., 18.IV.1994, *Cansaran* 136.

**Pyracantha coccinea** Roemer

Istasyon street, vicinity of National Domination Park; 400 m., 09.VIII.1994, *Cansaran* 612. cultivated plant.

**Crataegus monogyna** Jacq. subsp. **monogyna**

Lokman Dağı, NE slopes, Çakallar surroundings; 560 m., 18.IV.1994, *Cansaran* 142.

**Sorbus domestica** L.

Karaman Dağı, N slopes, 2 km. SW of Y. vill., 840 m., 19.VI.1994, *Cansaran* 460. Euro.-Sib. El.

**Pyrus elaeagnifolia** Pallas subsp. **elaeagnifolia**

Ferhat Dağı, N slopes, Çakallar



surroundings; 750 m., *Cansaran* 108.

*Amelanchier rotundifolia* (Lam.) Dum.-  
Courset subsp. *rotundifolia*

Lokman Dağı, N slopes; 690 m.,  
18.IV.1994, *Cansaran* 147. E. Medit. El.

#### LYTHRACEAE

*Lythrum salicaria* L.

Vicinity of Kurtboğan bridge, edge of  
Yeşilirmak River, watery place; 400 m.,  
11.IX.1994, *Cansaran* 631. Euro.-Sib. El.

#### ONAGRACEAE

*Epilobium montanum* L.

Vicinity of Kurtboğan bridge, edge of  
Yeşilirmak River, watery place; 400 m.,  
11.IX.1994, *Cansaran* 632. Euro.-Sib.El.

#### CUCURBITACEAE

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

Vicinity of Kurtboğan birdge, edge of  
Yeşilirmak River; 400 m., 23.V.1994,  
*Cansaran* 350, Medit. El.

#### CRASSULACEAE

*Sedum acre* L.

Ferhat Dağı, N slopes, stony places; 650  
m., 05.VII.1994, *Cansaran* 549.

*S. album* L.

Kırklar Dağı, N slopes, stony places; 600  
m., 19.VI.1994, *Cansaran* 448. (det. Ö.  
Eyüboğlu)

*S. hispanicum* L. var. *hispanicum*

Ferhat Dağı, N slopes, stony places; 710  
m., 25.VI.1994, *Cansaran* 511. (det. Ö.  
Eyüboğlu)

*S. pallidum* Bieb var. *pallidum*

E of Karaman Dağı, stony places; 670 m.,  
29.V.1994, *Cansaran* 364. (det. Ö. Eyüboğlu)

#### APIACEAE (UMBELLIFERAE)

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

Karaman Dağı, E slopes; 500 m.,  
07.VII.1994, *Cansaran* 603.

*Scandix iberica* Bieb.

Ferhat Dağı, N slopes; 460 m.,  
05.VI.1994, *Cansaran* 415.

*Bifora radians* Bieb.

Vicinity of A.E.F., edge of railways; 400  
m., 05.V.1994, *Cansaran* 212.

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

Kırklar Dağı, N slopes; 530 m.,

08.V.1994, *Cansaran* 223-B.Ir.-Tur.El.?

*Pimpinella tragiium* Vill. subsp.  
*pseudotragium* (DC.) Matthews

Ferhat Dağı, N slopes, stony places; 500  
m., 25.VI.1994, *Cansaran* 502. Ir.-Tur.El.

*Seseli tortuosum* L.

Ferhat Dağı, N slopes; 500 m.,  
02.X.1994, *Cansaran* 654.

*Foeniculum vulgare* Miller

Karaman Dağı, E slopes; 500 m.,  
10.VII.1994, *Cansaran* 579.

*Conium maculatum* L.

Vicinity of A.E.F.; 400 m., 27.VI.1994,  
*Cansaran* 517.

*Bupleurum croceum* Fenzl

Hacılar Areas place, roadsides; 400 m.,  
15.V.1994, *Cansaran* 256. Ir.-Tur. El.

*B. sulphureum* Boiss. & Bal.

Karaman Dağı, N slopes, 2 km. SW of Y.  
vill., 820 m., 19.VI.1994, *Cansaran* 477.  
End. Ir. Tur. El.

*Malabaila secacul* Banks & Sol.

Kırklar Dağı, N slopes; 440 m.,  
08.V.1994, *Cansaran* 238. (det. H. Duman)

*Heracleum platytaenium* Boiss.

Ferhat Dağı, N slopes; 700 m.,  
09.VIII.1994, *Cansaran* 613. End. Ö. El.

*Tordylium syriacum* L.

Kırklar Dağı, SW slopes; 490 m.,  
20.V.1994, *Cansaran* 310-A; E. Medit. El.  
(det. H. Duman).

*Torilis leptophylla* (L.) Reichb.

Kırklar Dağı, SW slopes; 490 m.,  
20.V.1994, *Cansaran* 300. (det. H. Duman)

*Caucalis platycarpus* L.

Kırklar Dağı, N slopes, 530 m.,  
08.V.1994, *Cansaran* 223-C. (det. H. Duman)

*Artemisia squamata* L.

Kırklar Dağı, N slopes, steppe; 600 m.,  
19.VI.1994, *Cansaran* 446.

#### RUBIACEAE

*Crucianella bithynica* Boiss.

Karaman Dağı, E slopes, open forests,  
500 m., 10.VII.1994, *Cansaran* 575. E.  
Medit. El.

*Asperula lilaciflora* Boiss. subsp.  
*phrygia* (Bornm.) Schönb.-Tem.

Lokman Dağı, E slopes, vicinity of

Kirazlıdere place; 1360 m., 03.VII.1994,  
*Cansaran* 534. End.

*Galium verum* L. subsp. *verum*

Ferhat Dağı, N slopes, 430 m.,  
05.VI.1994, *Cansaran* 417. Euro.-Sib.El.

*G. incanum* Sm. subsp. *elatius* (Boiss.)  
Ehrend.

Karaman Dağı, E slopes; 700 m.,  
25.VI.1994, *Cansaran* 512. Ir.-Tur.El.

*G. spurium* L. subsp. *spurium*

Meydanbağları surroundings, cultivated  
land; 400 m., 01.V.1994, *Cansaran* 204.  
Euro.-Sib.El.

*Cruciata taurica* (Pallas ex Willd.)  
Ehrend.

Ferhat Dağı, N slopes; 490 m.,  
15.V.1994, *Cansaran* 263. Ir.-Tur.El.

*Rubia tenuifolia* d'Urv. subsp.  
*brachypoda* (Boiss.) Ehrend. & Schön.-Tem.

Ferhat Dağı, N slopes; 420 m.,  
15.V.1994, *Cansaran* 260. E. Medit. El. (det.  
M. Vural)

#### ARALIACEAE

*Hedera helix* L.

Ferhat Dağı, N slopes, stony place; 750  
m., 27.II.1994, *Cansaran* 24.

*H. colchica* (C. Koch) C. Koch

Lokman Dağı, N slopes, stony place; 700  
m., 05.VI.1994, *Cansaran* 408. Ö.El.

#### CAPRIFOLIACEAE

*Lonicera etrusca* Santi var. *etrusca*

Lokman Dağı, Çakallar surroundings,  
750 m., 05.VI.1994, *Cansaran* 409. Medit.  
El.

#### VALERIANACEAE

*Valeriana dioscoridis* Sm.

Ferhat Dağı, N slopes, 500 m.,  
18.IV.1994, *Cansaran* 159. E. Medit. El.

*Centranthus longiflorus* Stev. subsp.  
*longiflorus*

Kırklar Dağı, E slopes, NW of A. Cast.;  
530 m., 22.V.1994, *Cansaran* 342. Ir.-Tur.  
El.

*Valerianella vesicaria* (L.) Moench

Karaman Dağı, N slopes, S of Y. vill.; 820  
m., 24.IV.1994, *Cansaran* 178.

#### MORINACEAE

*Morina persica* L.

Karaman Dağı; 1 km S of Y. vill., stony hillsides; 650 m., 29.V.1994, *Cansaran* 375. Ir.-Tur. El.

**DIPSACAEEAE**

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

Ferhat Dağı, N slopes; 660 m., 25.VI.1994, *Cansaran* 508.

*S. argentea* L.

Kırklar Dağı, N slopes; 580 m., 19.VI.1994, *Cansaran* 452.

*S. micrantha* Desf.

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 560.

*S. rotata* Bieb.

Kırklar Dağı, SW slopes, steppe; 540 m., 20.V.1994, *Cansaran* 316. Ir.-Tur. El.

*Pterocephalus plumosus* (L.) Coulter

Kırklar Dağı, SW slopes; 490 m., 20.V.1994, *Cansaran* 310-B.

**ASTERACEAE (COMPOSITAE)**

*Xanthium spinosum* L.

Vicinity of Amasya Stadium, eroded places; 400 m., 11.IX.1994, *Cansaran* 642 B.

*X. strumarium* L. subsp. *cavanillesii* (Schouw) D. Löve & P. Dansereau

Meydanbağları surroundings, edge of Yeşilirmak River, roadsides; 400 m., 11.IX.1994, *Cansaran* 642-A.

*Asteriscus aquaticus* (L.) Less.

Karaman Dağı, E slopes; 440 m., 10.VII.1994, *Cansaran* 596. *Medit. El.*

*Inula salicina* L.

Ferhat Dağı, N slopes; 680 m., 25.VI.1994, *Cansaran* 509. *Euro.-Sib.El.*

*I. heterolepis* Boiss.

Karaman Dağı, N slopes, S of Y vill., stony slopes; 880 m., 19.VI.1994, *Cansaran* 461. *E. Medit. El.*

*Conyza canadensis* (L.) Cronquist

Meydanbağları surroundings, cultivated land; 400 m., 03.XI.1994, *Cansaran* 659.

*Senecio vernalis* Walds. & Kit.

Kırklar Dağı, S slopes, road sides; 420 m., 07.IV.1994, *Cansaran* 114.

*Calendula arvensis* L.

Vicinity of A. Cast., 480 m., 09.IV.1994,

*Cansaran* 665.

*Anthemis cretica* L. subsp. *anatolica* (Boiss.) Grierson

E of Karaman Dağı, open forests; 480 m., 29.V.1994, *Cansaran* 386.

*A. tinctoria* L. var. *tinctoria*

E of Karaman Dağı, open forests; 550 m., 29.V.1994, *Cansaran* 387.

*Achillea setacea* Waldst. & Kit.

Vicinity of A.E.F.; 400 m., 15.VI.1994, *Cansaran* 432. *Euro.-Sib.El.*

*A. biebersteinii* Afan.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 410 m., 15.V.1994, *Cansaran* 268. *Ir.-Tur. El.*

*Tanacetum poteriifolium* (Ledeb.) Grierson

Lokman Dağı, E slopes, vicinity of Kirazlıdere place; 1350 m., 03.VII.1994, *Cansaran* 530. *Ö. El.*

*T. aucheranum* (DC.) Schultz Bip.

Ferhat Dağı, N slopes; 720 m., 05.VI.1994, *Cansaran* 425. *Ir.-Tur.El.*

*T. argenteum* (Lam.) Willd. subsp. *canum* (C. Koch) Grierson var. *canum*

Ferhat Dağı, N slopes, stony places; 780 m., 25.VI.1994, *Cansaran* 504.

*Tripleurospermum parviflorum* (Billd.) Pobed.

Kırklar Dağı, S slopes; 440 m., 03.IV.1994, *Cansaran* 104.

*Cirsium vulgare* (Savi) Ten.

Karaman Dağı, 2 km. NW of Y. vill.; 850 m., 09.VIII.1994, *Cansaran* 617.

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

Vicinity of Kurtboğan bridge, roadsides; 400 m., 11.IX.1994, *Cansaran* 633.

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

Lokman Dağı, E slopes, vicinity of Kirazlıdere place; 780 m., 03.VII.1994, *Cansaran* 520.

*Carduus nutans* L. *nutans*

Kırklar Dağı, N slopes; 440 m., 08.V.1994, *Cansaran* 233.

*C. pycnocephalus* L. subsp. *albidus* (Bieb.) Kazmi

Karaman Dağı, E slopes; 500 m., 29.V.1994, *Cansaran* 374.

*Jurinea pontica* Hausskn. & Freyn ex Hausskn.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 550 m., 15.V.1994, *Cansaran* 267; *End. Ir.-Tur. El.*

*Centaurea virgata* Lam. **Grup A**

Karaman Dağı, N slopes; 2 km. SW of Y. vill., 850 m., 19.VI.1994, *Cansaran* 462.

*C. solstitialis* L. subsp. *solstitialis*

Kırklar Dağı, N slopes, roadsides; 600 m., 19.VI.1994, *Cansaran* 457.

*C. iberica* Trev. ex Sprengel

A.E.F. Garden; 400 m., 27.VI.1994, *Cansaran* 518.

*C. urvillei* DC. subsp. *stepposa* Wagenitz

Karaman Dağı, N slopes, 2 km. SW of Y. vill.; 840 m., 19.VI.1994, *Cansaran* 464. *Ir.-Tur. El.*

*Crupina crupinastrum* (Moris) Vis.

Kırklar Dağı, E slopes, NW of A. Cast.; 510 m., 22.V.1994, *Cansaran* 627.

*Carthamus dentatus* Vahl

Ferhat Dağı, N slopes; Memidede Cemetery surroundings, 450 m., 17.VII.1994, *Cansaran* 606.

*C. glaucus* Bieb. subsp. *glaucus*

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 600.

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

Karaman Dağı, 2 km. NW of Y. vill.; 800 m., 09.VIII.1994, *Cansaran* 614.

*Xeranthemum annuum* L.

Kırklar Dağı, N slopes, steppe; 600 m., 09.VI.1994, *Cansaran* 449.

*Chardinia orientalis* (L.) O. Kuntze

Ferhat Dağı, N slopes; W of Memidede Cemetery; 440 m., 15.V.1994 *Cansaran* 259, *Ir.-Tur.El.*

*Echinops ritro* L.

Karaman Dağı, N slopes; 2 km. SW of Y. vill.; 700 m., 03.VII.1994, *Cansaran* 552.

*Scolymus hispanicus* L.

Vicinity of A.E.F.; 400 m., 15.VI.1994, *Cansaran* 437. *Medit. El.*

*Cichorium intybus* L.

Ferhat Dağı, Memidede Cemetery surroundings, road sides; 450 m.,

25.VI.1994, *Cansaran* 484.

*Scorzonera cana* (C.A. Meyer) Hoffm.  
var. *radicosa* (Boiss.) Chamberlain

Karaman Dağı, N slopes, S of Y. vill.; 830 m., 24.IV.1994, *Cansaran* 182.

*S. amasiana* Hausskn. & Bornm.

Kırklar Dağı, SW slopes; 590 m., 20.V.1994, *Cansaran* 293. End.

*Tragopogon longirostris* Bisch. ex  
Schultz Bip. var. *abbreviatus* Boiss.

Ferhat Dağı, N slopes; 490 m., 15.V.1994, *Cansaran* 261.

*Leontodon asperimus* (Willd.) J. Ball

Kırklar Dağı, E slopes, NW of A. Cast.,  
steppe; 500 m., 22.V.1994, *Cansaran* 624.  
Ir.-Tur.El.

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

Ferhat Dağı, N slopes, Memidede  
Cemetery surroundings; 550 m., 15.V.1994,  
*Cansaran* 266.

*Reichardia glauca* Matthews

Lokman Dağı, E slopes, vicinity of  
Kıralıdere surroundings; 840 m.,  
03.VII.1994, *Cansaran* 522. Ir.-Tur. El.

*Hieracium paphlagonicum* Freyn &  
Sint.

Lokman Dağı, E slopes, vicinity of  
Kıralıdere surroundings; 830 m.,  
03.VII.1994, *Cansaran* 521. End.

*Pilosella x ruprechtii* (Boiss.) Sell & West  
Karaman Dağı, N slopes, S of Y. vill.; 840  
m., 24.IV.1994, *Cansaran* 185.

*Mulgedium quercinum* (L.) C. Jeffrey

Kırklar Dağı, E slopes, NW of A. Cast.;  
580 m., 22.V.1994, *Cansaran* 334. Euro.-  
Sib.El.

*Lactuca serriola* L.

Ferhat Dağı, N slopes; 500 m.,  
10.VII.1994, *Cansaran* 605-B. Euro.-Sib. El.

*Chondrilla juncea* L. var. *juncea*

E of Karaman Dağı, roadsides; 450 m.,  
11.IX.1994, *Cansaran* 637.

*Crepis sancta* (L.) Babcock

Kırklar Dağı, S slopes; 450 m.,  
03.IV.1994, *Cansaran* 106.

**CAMPANULACEAE**

*Campanula rapunculoides* L. subsp.

*cordifolia* (C. Koch) Damboldt

Lokman Dağı, E slopes, vicinity of  
Kıralıdere surroundings, forest; 1350 m.,  
03.VII.1994, *Cansaran* 529.

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

Lokman Dağı, E slopes, vicinity of  
Kıralıdere forest; 1400 m., 03.VII.1994,  
*Cansaran* 537. Euro.-Sib. El.

*C. involucreta* Aucher ex A. DC.

Ferhat Dağı, N slopes; 510 m.,  
15.V.1994, *Cansaran* 270. Ir.-Tur. El.

*Asyneuma limonifolium* (L.) Janchen  
subsp. *pestalozzae* (Boiss.) Damboldt

Kırklar Dağı, N slopes; 440 m.,  
08.V.1994, *Cansaran* 235. End.

**PRIMULACEAE**

*Cyclamen coum* Miller var. *coum*

Ferhat Dağı, N slopes, stony place; 730  
m., 27.II.1994, *Cansaran* 28.

*C. coum* Miller var. *caucasicum* (C.  
Koch) Meikle

Ferhat Dağı, N slopes, stony area, 730  
m., 27.II.1994, *Cansaran* 27.

*Lysimachia verticillaris* Sprengel

Lokman Dağı, E slopes, vicinity of  
Kıralıdere surroundings, 1400 m.,  
03.VII.1994, *Cansaran* 538. H.Ö.El.

*Anagallis arvensis* L. var. *caerulea* (L.)  
Gouan

E of Karaman Dağı, open forests, eroded  
places; 550 m., 29.V.1994, *Cansaran* 388.

**OLEACEAE**

*Jasminum fruticans* L.

Ferhat Dağı, N slopes; 550 m.;  
18.IV.1994, *Cansaran* 158. Medit. El.

**APOCYNACEAE**

*Vinca herbacea* Waldst. & Kit

Ferhat Dağı, N slopes; 450 m.,  
18.IV.1994, *Cansaran* 149.

*V. major* L. subsp. *hirsuta* (Boiss.)  
Stearn

A.E.F. Garden; 400 m., 20.IV.1994,  
*Cansaran* 666. Ö.El.

**ASCLEPIADACEAE**

*Periploca graeca* L. var. *vestita* Rohlén

Ferhat Dağı, N slopes, Memidede  
Cemetery surroundings; 450 m., 02.X.1994,  
*Cansaran* 648. E. Medit. El.

*Cynanchum acutum* L. subsp. *acutum*

A.E.F. Garden; 400 m., 03.IX.1994,  
*Cansaran* 629.

*Vincetoxicum fuscatum* (Hornem.)

Reichb. subsp. *boissieri* (Kusn.) Browicz

Ferhat Dağı, N slopes; Memidede  
Cemetery surroundings; 460 m., 15.V.1994,  
*Cansaran* 276. End. Ir.-Tur. El.

*Cionura arecta* (L.) Griseb.

Kırklar Dağı, E slopes, NW of A. Cast.;  
610 m., 22.V.1994, *Cansaran* 339. E. Medit.  
El.

**GENTIANACEAE**

*Centaurium erythraea* Rafn (Valen)

Melderis subsp. *turcicum* (Velen) Melderis  
Karaman Dağı, 2 km. SW of Y. Vill.; 830  
m., 19.VI.1994, *Cansaran* 474.

**CONVOLVULACEAE**

*Convolvulus cantabrica* L.

Kırklar Dağı, N slopes, steppe; 440 m.,  
08.V.1994, *Cansaran* 236.

*C. lineatus* L.

Ferhat Dağı, N slopes; 630 m.,  
05.VI.1994, *Cansaran* 420.

*C. holosericeus* Bieb. subsp.  
*holosericeus*

Kırklar Dağı, SW slopes, steppe; 610 m.,  
20.V.1994, *Cansaran* 295.

*C. assyricus* Griseb.

Karaman Dağı, N slopes, 1 km. SW of Y.  
vill.; 840 m., 24.IV.1994, *Cansaran* 196.  
End. Ir.-Tur. El.

*C. arvensis* L.

Lokman Dağı, N slopes, 2 km. NW of  
Vermiş village, 830 m., 05.VI.1994,  
*Cansaran* 406.

*Ipomoea purpurea* (L.) Roth

Meydanbağları surroundings, cultivated  
land; 400 m., 01.X.1994, *Cansaran* 646.

**CUSCUTACEAE**

*Cuscuta planiflora* (Boiss. & Sprun)  
Uhrova

Ferhat Dağı, N slopes, on *Coronilla*  
*emerus* L. ssp. *emeroides*; 630 m.,  
04.VIII.1994, *Cansaran* 663.

**BORAGINACEAE**

*Heliotropium europaeum* L.

Vicinity of Amasya Stadium, edge of

Yeşilirmak River; 400 m., 19.VI.1994, *Cansaran* 483. *Medit. El.?*

**Lappula barbata** (Bieb.) Gürke

Kırklar Dağı, N slopes; 450 m., 08.V.1994, *Cansaran* 231. Ir.-Tur. El.

**Myosotis ramosissima** Rochel ex Schultes subsp. *ramosissima*

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings; 450 m.; 10.IV.1994, *Cansaran* 120.

**Paracaryum ancyritanum** Boiss.

Vicinity of A.E.F., edge of railways; 400 m., 05.V.1994, *Cansaran* 216. *End. Ir.-Tur. El.*

**Cynoglossum creticum** Miller

Kırklar Dağı, N slopes, vicinity of Tekirdede Cemetery 450 m., 22.V.1994, *Cansaran* 324.

**Echium italicum** L.

Kırklar Dağı, SW slopes, steppe; 490 m., 20.V.1994, *Cansaran* 317. *Medit. El.*

**E. angustifolium** Miller

Vicinity of Karaman Dağı, E slopes; 470 m., 29.V.1994, *Cansaran* 380. *E. Medit. El.*

**Moltkia coerulea** (Willd.) Lehm.

Ferhat Dağı, N slopes; 700 m., 30.IV.1994, *Cansaran* 667. Ir.-Tur. El.

**Onosma sericeum** Willd.

Karaman Dağı, E slopes, stony places; 600 m., 29.V.1994, *Cansaran* 359. Ir.-Tur. El.

**O. albo-roseum** Fisch. & Mey. subsp. *albo-roseum*

Kırklar Dağı, S slopes, stony places; 500 m., 03.IV.1994, *Cansaran* 96. Ir.-Tur. El.

**O. tauricum** Pallas ex Willd. var. *brevifolium* DC.

Karaman Dağı, N slopes, S of Y. vill.; 810 m., 24.IV.1994, *Cansaran* 194. *End.*

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

Lokman Dağı, N slopes, 2 km. NW of Vermiş village; 560 m., 05.V.1994, *Cansaran* 407.

**Anchusa leptophylla** Roemer & Schultes subsp. *leptophylla*

Lokman Dağı, N slopes, NW of Çakallar surroundings, 500 m., 02.X.1994, *Cansaran* 651.

**A. undulata** L. subsp. *hybrida* (Ten.) Coutinho

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 565. *Medit. El.*

**A. strigosa** Labill.

Kırklar Dağı, N slopes; 500 m., 08.V.1994, *Cansaran* 230.

**Alkanna haussknechtii** Bornm.

E of Karaman Dağı, open forests; 500 m., 29.V.1994, *Cansaran* 389. *End. Ir.-Tur. El.*

#### SOLANACEAE

**Solanum nigrum** L. subsp. *schultesii* (Opiz) Wessely

Meydanbağları surroundings, vicinity of Kurtboğan bridge, roadsides; 400 m., 09.VIII.1994, *Cansaran* 611.

**S. dulcamara** L.

Meydanbağları surroundings, cultivated land; 400 m., 23.V.1994, *Cansaran* 353. *Euro.-Sib. El.*

**Physalis alkekengi** L.

A.E.F. Garden; 400 m., 27.X.1994, *Cansaran* 660.

**Datura stramonium** L.

Karaman Dağı, E slopes, vicinity of Y. vill., roadsides, 600 m., 29.V.1994, *Cansaran* 383.

**Hyoscyamus niger** L.

Lokman Dağı, N slopes, 2 km. NW of Vermiş village, roadsides; 590 m., 05.VI.1994, *Cansaran* 404.

#### SCROPHULARIACEAE

**Verbascum caudatum** Fryen & Bornm.

Ferhat Dağı, N slopes; 650 m., 05.VII.1994, *Cansaran* 550. *End. Ir. Tur. El.* (det. Ö. Eyüboğlu & E. Hamzaoğlu)

**V. armenum** Boiss. & Kotschy var. *armenum*

Kırklar Dağı, N slopes; 530 m., 19.VI.1994, *Cansaran* 478. (det. Ö. Eyüboğlu & E. Hamzaoğlu)

**V. armenum** Boiss. & Kotschy var. *occidentale* Hub.-Mor.

Karaman Dağı, 2 km. NW of Y. vill.; 830 m., 19.VI.1994, *Cansaran* 472. *End. Ir.-Tur. El.*

**V. hadschinense** Freyn

Ferhat Dağı, N slopes; 650 m.,

05.VII.1994, *Cansaran* 551. *End. Ir.-Tur. El.?* (det. Ö. Eyüboğlu & E. Hamzaoğlu)

**V. sinuatum** L. var. *sinuatum*

Karaman Dağı, 2 km. SW of Y. vill., 700 m., 05.VII.1994, *Cansaran* 548. *Medit. El.*

**V. cheiranthifolium** Boiss. var. *cherianthifolium*

Lokman Dağı, E slopes, vicinity of Kirazlıdere; 1430 m., 03.VII.1994, *Cansaran* 543.

**Scrophularia lucida** L.

Karaman Dağı, N slopes, SE of Bağlarüstü village, 850 m., 24.IV.1994, *Cansaran* 200. *Medit. El.?*

**S. xanthoglossa** Boiss. var. *deciapiens* (Boiss. & Kotschy) Boiss.

Kırklar Dağı, N slopes; 440 m., 08.V.1994, *Cansaran* 241. Ir.-Tur. El.

**Anarrhinum orientale** Benth

Kırklar Dağı, N slopes; 450 m., 08.V.1994, *Cansaran* 243. Ir.-Tur. El.

**Linaria corifolia** Desf.

Kırklar Dağı, N slopes; 530 m., 08.V.1994, *Cansaran* 222. *End. Ir.-Tur. El.*

**Digitalis lamarckii** Ivan.

Karaman Dağı, E slopes; 630 m., 29.V.1994, *Cansaran* 368. *End. Ir.-Tur. El.*

**Veronica polita** Fries

Meydanbağları surroundings, cultured land; 400 m., 28.II.1994, *Cansaran* 33.

**V. anagallis-aquatica** L.

Karaman Dağı, vicinity of Y. vill., wet areas; 610 m., 29.V.1994, *Cansaran* 376.

**V. multifida** L.

Lokman Dağı, Çakallar place, N slopes; 650 m., 18.IV.1994, *Cansaran* 138. *End. Ir.-Tur. El.*

#### OROBANCHACEAE

**Orobanche nana** Noe ex G. Beck

Ferhat Dağı, N slopes; 750 m., 25.VI.1994, *Cansaran* 498.

**O. minör** Sm.

Meydanbağları, on *Phaseolus vulgaris* roots; 01.X.1994, *Cansaran* 644.

#### GLOBULARIACEAE

**Globularia trichosantha** Fisch. & Mey.

Kırklar Dağı, S slopes, stony places, 640 m., 03.IV.1994, *Cansaran* 97.

## LAMIACEAE (LABIATAE)

*Ajuga chamaepitys* (L.) Schreber subsp. *chia* (Schreber) Arcangeli var. *chia*

Karaman Dağı, N slopes, S of Y. vill.; 890 m., 24.IV.1994, *Cansaran* 180.

*Teucrium chamaedrys* L. subsp. *chamaedrys*

Kırklar Dağı, SW slopes, steppe; 520 m., 20.V.1994, *Cansaran* 304; Euro.-Sib. El.

*T. polium* L.

Kırklar Dağı, N slopes; 600 m., 19.VI.1994, *Cansaran* 458.

*Scutellaria rubicunda* Hornem. subsp. *brevibracteata* (Stapf) Edmondson

Ferhat Dağı, N slopes; 600 m., 25.VI.1994, *Cansaran* 501. End. E. Medit. El.

*S. salviifolia* Bentham

E of Karaman Dağı, open forests, 500 m., 29.V.1994, *Cansaran* 358. End.

*S. orientalis* L. subsp. *pinnatifida* Edmondson

Ferhat Dağı, N slopes; 550 m., 25.VI.1994, *Cansaran* 514.

*Phlomis armeniaca* Willd.

E of Karaman Dağı; 520 m., 29.V.1994, *Cansaran* 371. End. Ir.-Tur. El.

*Lamium garganicum* L. subsp. *rectum* (Schenk) R. Mill

Ferhat Dağı, N slopes, stony places; 740 m., 18.IV.1994, *Cansaran* 161.

*L. amplexicaule* L.

Kırklar Dağı, S slopes; 450 m., *Cansaran* 87. Euro.Sib. El.

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

Kırklar Dağı, S slopes; 630 m., 03.IV.1994, *Cansaran* 86. Euro. Sib. El.

*Ballota nigra* L. subsp. *anatolica* P.H. Davis

Meydanbağları surroundings, roadsides; 400 m., 15.VI.1994, *Cansaran* 435. End. Ir.-Tur. El.

*Marrubium vulgare* L.

Vicinity of A.E.F., edge of railways; 400 m., 05.V.1994, *Cansaran* 211.

*M. anisodon* C. Koch

Karaman Dağı, E slopes; 550 m., 29.V.1994, *Cansaran* 362.

*Sideritis montana* L. subsp. *remota* (d'

Urv.) P.W. Ball ex Heywood

Kırklar Dağı, SW slopes, 470 m., 20.V.1994, *Cansaran* 303. E. Medit. El.

*S. dichotoma* Huter

Ferhat Dağı, N slopes; 630 m., 05.VI.1994, *Cansaran* 421. End.

*Stachys byzantina* C. Koch

Karaman Dağı, E slopes; 520 m., 29.V.1994, *Cansaran* 373. Euro.-Sib. El.

*S. lavandulifolia* Vahl var. *lavandulifolia*

Kırklar Dağı, N slopes, vicinity of Tekirdede Mezarlığı; 470 m., 22.V.1994, *Cansaran* 319. Ir.-Tur. El.

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

Karaman Dağı, N slopes, S of Y. vill.; 810 m., 24.IV.1994, *Cansaran* 193.

*S. annua* (L.) L. subsp. *annua* var. *lycaonica* Bhattacharjee

Karaman Dağı, N slopes, SW of Y. vill.; 880 m., 19.VI.1994, *Cansaran* 439. Ir.-Tur. El.

*Melissa officinalis* L. subsp. *officinalis*

Karaman Dağı, E slopes, 500 m., 10.VII.1994, *Cansaran* 591.

*Nepeta italica* L.

Kırklar Dağı, N slopes, steppe; 650 m., 09.VI.1994, *Cansaran* 456.

*Prunella vulgaris* L.

Karaman Dağı, E slopes, wet areas; 550 m., 10.VII.1994, *Cansaran* 593. Euro.-Sib. El.

*P. laciniata* (L.) L.

Ferhat Dağı, N slopes; 700 m., 05.VII.1994, *Cansaran* 424. Euro.-Sib. El.

*Origanum vulgare* L. subsp. *viride* (Boiss.) Hayek

Ferhat Dağı, N slopes; 600 m., 25.VI.1994, *Cansaran* 499.

*Thymus sipyleus* Boiss. subsp. *rosulans* (Borbás) Jalas

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings, 1300 m., 03.VII.1994, *Cansaran* 535.

*Thymbra spicata* L. var. *spicata*

Lokman Dağı, NE slopes, vicinity of Kirazlıdere surroundings, stony places, 800 m., 03.VII.1994, *Cansaran* 536. E. Medit. El.

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

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings, wet areas, 1400 m., 03.VII.1994, *Cansaran* 531.

*M. longifolia* (L.) Hudson subsp. *noeana* (Boiss. ex Briq.) Briq.

Vicinity of Amasya Stadium, edge of Yeşilirmak River, wet areas; 400 m., 11.IX.1994, *Cansaran* 630.

*Ziziphora capitata* L.

Kırklar Dağı, SW slopes; 490 m., 20.V.1994, *Cansaran* 307. Ir.-Tur. El.

*Z. taurica* Bieb subsp. *taurica*

Karaman Dağı, E slopes, 1 km. S of Y. vill.; 650 m., 20.V.1994, *Cansaran* 366. Ir.-Tur. El.?

*Salvia tomentosa* Miller

Kırklar Dağı, N slopes, vicinity of Tekirdede Cemetery, 450 m., 22.V.1994, *Cansaran* 320. Medit. El.

*S. bracteata* Banks & Sol.

Karaman Dağı, E slopes; 540 m., 29.V.1994, *Cansaran* 367. Ir.-Tur. El.?

*S. viridis* L.

N of A. Cast.; 650 m., 22.V.1994, *Cansaran* 336. Medit. El.

*S. hypargeia* Fisch. & Mey.

Karaman Dağı, E slopes, open forests; 590 m., 29.V.1994, *Cansaran* 385. End. Ir.-Tur. El.

*S. sclarea* L.

Karaman Dağı, E slopes, open forests; 500 m., 10.VII.1994, *Cansaran* 558.

*S. aethiopsis* L.

Kırklar Dağı, SW slopes; 470 m., 20.V.1994, *Cansaran* 313.

*S. candidissima* Vahl subsp. *occidentalis* Hedge

Ferhat Dağı, N slopes; 550 m., 25.VI.1994, *Cansaran* 510. Ir.Tur. El.?

*S. virgata* Jacq.

Ferhat Dağı, N slopes; 460 m., 05.VI.1994, *Cansaran* 416. Ir.-Tur. El.?

*S. verticillata* L. subsp. *amasiaca* (Freynt & Bornm.) Bornm.

Lokman Dağı, N slopes, 2 km. of Vermiş village; 600 m., 05.VI.1994, *Cansaran* 414. Ir.-Tur. El.?

## PLUMBAGINACEAE

*Plumbago europaea* L.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 520 m., 25.VI.1994, *Cansaran* 513. Euro.-Sib. El.

*Acantholimon acerosum* (Willd.) Boiss. var. *acerosum*

Ferhat Dağı, N slopes; 550 m., 25.VI.1994, *Cansaran* 488; Ir.-Tur. El.

#### PLANTAGINACEAE

*Plantago major* L. subsp. *major*

Karaman Dağı, E slopes, wet areas; 500 m.; 10.VII.1994, *Cansaran* 588.

*P. lanceolata* L.

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 574.

#### ELAEAGNACEAE

*Elaeagnus angustifolia* L.

Kırklar Dağı, N slopes; 650 m., 22.V.1994, *Cansaran* 345.

#### LORANTHACEAE

*Viscum album* L. subsp. *album*

Meydanbağları place, on cultured trees, 400 m., 27.II.1994, *Cansaran* 46.

#### EUPHORBIACEAE

*Andrachne telephioides* L.

Karaman Dağı, E slopes, open forests; 500 m., 10.VII.1994, *Cansaran* 570.

*Chrozophora tinctoria* (L.) Rafin.

Karaman Dağı, E slopes, stony places; 500 m., 10.VII.1994, *Cansaran* 594. (det. H. Duman)

*Mercurialis annua* L.

Ferhat Dağı, N slopes, NW of Çakallar surroundings; 550 m., 02.X.1994, *Cansaran* 652.

*Euphorbia cardiophylla* Boiss. Dt. Heldr.

Kırklar Dağı, S slopes; 550 m., 03.IV.1994, *Cansaran* 91. End.

*E. aleppica* L.

E of Karaman Dağı, open forests; 500 m., 10.VII.1994, *Cansaran* 568.

*E. falcata* L. subsp. *falcata* var. *falcata*

E of Karaman Dağı, open forests; 500 m., 10.VII.1994, *Cansaran* 566.

*E. falcata* L. subsp. *falcata* var. *galilaea* (Boiss.) Boiss.

Ferhat Dağı, N slopes; 500 m., 17.VII.1994, *Cansaran* 605-A.

*E. rigida* Bieb.

Ferhat Dağı, NW slopes; 650 m., 20.III.1994, *Cansaran* 73. Medit. El.

*E. lathyris* L.

Ferhat Dağı, N slopes; 500 m., 17.VII.1994, *Cansaran* 605-C.

#### URTICACEAE

*Urtica dioica* L.

Meydanbağları surroundings, roadsides; 400 m., 07.VII.1994, *Cansaran* 555. Euro.-Sib. El.

#### ULMACEAE

*Celtis caucassica* Willd.

E of Karaman Dağı; 500 m., 11.IX.1994, *Cansaran* 640.

#### PLATANACEAE

*Platanus orientalis* L.

A.E.F. Garden and edge of streets in Amasya; 400 m., 06.V.1994, *Cansaran* 220.

#### FAGACEAE

*Quercus pubescens* Willd.

Ferhat Dağı, NW slopes, forest; 680 m., 18.IV.1994, *Cansaran* 152.

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

Lokman Dağı, N slopes, 2 km. SW of Vermiş village, forest; 610 m., 05.VI.1994, *Cansaran* 401.

#### CORYLACEAE

*Carpinus orientalis* Miller subsp. *orientalis*

Lokman Dağı, N slopes; 590 m., 05.VI.1994, *Cansaran* 410.

*Corylus colurna* L.

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings, forest; 1400 m., 03.VII.1994, *Cansaran* 541. Euro.-Sib. El.

#### SALICAEAE

*Salix alba* L.

Vicinity of Amasya Stadium, edge of Yeşilirmak River; 400 m., 05.VII.1994, *Cansaran* 553. Euro.-Sib. El.

*Populus tremula* L.

Vicinity of Y. vill., humid places; 610 m., 29.V.1994, *Cansaran* 365. Euro.-Sib. El.

*P. nigra* L. subsp. *nigra*

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 450 m., 29.V.1994, *Cansaran* 382.

#### MONOCOTYLEDONES

##### LILIACEAE

*Ruscus aculeatus* L. var. *angustifolius* Boiss.

Ferhat Dağı, NW slopes; 630 m., 20.III.1994, *Cansaran* 74.

*Asparagus officinalis* L.

Ferhat Dağı, N slopes, 450 m., 02.X.1994, *Cansaran* 653.

*Allium callidictyon* C.A.Meyer ex Kunth

Karaman Dağı, N slopes, 2 km SW of Y. vill.; 850 m., 19.VI.1994, *Cansaran* 467. Ir.-Tur. El. (det. H. Duman)

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

Kırklar Dağı, N slopes, steppe; 580 m., 08.V.1994, *Cansaran* 227. Medit. El. (det. H. Duman)

*Ornithogalum sphaerocarpum* Kerner

Kırklar Dağı, N slopes; 550 m., 08.V.1994, *Cansaran* 249.

*O. oligophyllum* E.D.Clarke

Kırklar Dağı, SW slopes; 630 m., 03.IV.1994, *Cansaran* 84.

*Muscari armeniacum* Leichtlin ex Baker

Lokman Dağı, NE slopes; 700 m., 18.IV.1994, *Cansaran* 145. (det. M. Koyuncu)

*M. neglectum* Guss.

Ferhat Dağı, N slopes; 590 m., 20.III.1994, *Cansaran* 68. (det. M. Koyuncu)

*M. bourgaei* Baker

Kırklar Dağı, W slopes; 700 m., 14.III.1994, *Cansaran* 58. End. Medit. El. (det. M. Koyuncu)

*Hyacinthella micrantha* (Boiss.)

Chouard

Karaman Dağı, W slopes, forest, 580 m., 01.III.1994, *Cansaran* 41. End. Ir.-Tur. El.? (det. H. Duman)

*Tulipa armena* Boiss. var. *armena*

Ferhat Dağı, N slopes, 800 m., 30.IV.1994, *Cansaran* 668. Ir.-Tur. El.

*Gagea granatelli* (Parl.) Parl.

Kırklar Dağı, S slopes; 520 m., 03.IV.1994, *Cansaran* 82. Medit. El.

*Colchicum triphyllum* G. Kunze

Ferhat Dağı, N slopes; 550 m., 27.II.1994, *Cansaran* 8. Medit. El.

## IRIDACEAE

*Ins galatica* Siehe

Ferhat Dağı, N slopes, scrub; 480 m., 27.II.1994, *Cansaran* 9. End. Ir.-Tur. El.

*Crocus reticulatus* Steven ex Adams subsp. *reticulatus*

Ferhat Dağı, NE slopes; 640 m., 27.II.1994, *Cansaran* 16.

*C. ancyransis* (Herbert) Maw

Kırklar Dağı, SW slopes; 710 m., 14.III.1994, *Cansaran* 57. End. Ir.-Tur. El.

## ORCHIDACEAE

*Cephalanthera rubra* (L.) L.C.M. Richard

Lokman Dağı, N slopes, 2 km. SW of Vermiş village, forest; 830 m., 05.VI.1994, *Cansaran* 405.

*Orchis palustris* Jacq.

Lokman Dağı, N slopes, 2 km. SW of Vermiş village; 860 m., 05.VI.1994, *Cansaran* 427.

## JUNCAEAE

*Juncus littoralis* C.A. Meyer

Karaman Dağı, N slopes, 1 km. SW of Y. vill., wet areas; 730 m., 19.VI.1994, *Cansaran* 453. *Medit. El.*

## CYPERACEAE

*Cyperus rotundus* L.

Meydanbağları place, cultivated land, damp places; 400 m., 11.IX.1994, *Cansaran* 643.

## POACEAE (GRAMINEAE)

*Brachypodium sylvaticum* (Hudson) P. Beauv.

Lokman Dağı, NE slopes, vicinity of Kirazlıdere surroundings, 830 m., 03.VII.1994, *Cansaran* 523. *Euro.-Sib. El.*

*Elymus repens* (L.) Gould subsp. *repens*

Vicinity of Amasya Stadium; 400 m., 12.VI.1994, *Cansaran* 429.

*Aegilops triuncialis* L. subsp. *triuncialis*

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 430 m., 15.V.1994, *Cansaran* 258.

*Triticum aestivum* L.

Karaman Dağı, E slopes, 2 km. S of Y. vill.; 29.V.1994, *Cansaran* 361. *culture*

*Hordeum murinum* L. subsp. *glaucum* (Steudel) Tzvelev

Meydanbağları surroundings, roadsides; 400 m., 01.V.1994, *Cansaran* 201.

*H. bulbosum* L.

Meydanbağları surroundings, cultivated land; 400 m., 14.V.1994, *Cansaran* 255.

*H. vulgare* L.

Karaman Dağı, E slopes, vicinity of Y. vill., fields; 600 m., 29.V.1994, *Cansaran* 360. *culture plant*

*Bromus tectorum* L.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 440 m., 15.V.1994, *Cansaran* 289.

*B. tomentellus* Boiss.

Kırklar Dağı, E slopes, NW of A. Cast.; 730 m., 22.V.1994, *Cansaran* 330. *Ir.-Tur. El.*

*Koeleria cristata* (L.) Pers.

Ferhat Dağı, N slopes; 530 m., 05.VI.1994, *Cansaran* 422.

*Alopecurus myosuroides* Hudson var. *myosuroides*

Meydanbağları surroundings, cultivated land; 400 m., 01.V.1994, *Cansaran* 203. *Euro.-Sib. El.* (det. H. Duman)

*Phleum exaratum* Hochst. ex Griseb. subsp. *exaratum*

Kırklar Dağı, SW slopes; 490 m., 20.V.1994, *Cansaran* 312.

*Lolium rigidum* Gaudin var. *rigidum*

Karaman Dağı, E slopes; 550 m., 10.VII.1994, *Cansaran* 592.

*Poa trivialis* L.

Meydanbağları place, cultured area; 400 m., 01.V.1994, *Cansaran* 202.

*P. bulbosa* L.

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 420 m., 15.V.1994, *Cansaran* 287.

*Dactylis glomerata* L. subsp. *glomerata*

Lokman Dağı, E slopes, vicinity of Kirazlıdere surroundings; 1140 m., 03.VII.1994, *Cansaran* 527. *Euro.-Sib. El.*

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

Kırklar Dağı, N slopes, Tekirdede Cemetery surroundings; 460 m., 22.V.1994, *Cansaran* 321.

*Echinaria capitata* (L.) Desf.

Ferhat Dağı, N slopes; 500 m., 20.V.1994, *Cansaran* 311. (det. E. Hamzaoğlu)

*Melica ciliata* L. subsp. *ciliata*

Ferhat Dağı, N slopes, Memidede Cemetery surroundings; 430 m., 25.VI.1994, *Cansaran* 493.

*Stipa bromoides* (L.) Dörfler

Karaman Dağı, E slopes; 500 m., 10.VII.1994, *Cansaran* 595. *Medit. El.*

*Piptatherum holciforme* (Bieb.) Roemer & Schultes subsp. *holciforme* var. *holciforme*

Ferhat Dağı, N slopes; 530 m., 15.VI.1994, *Cansaran* 423. (det. H. Duman)

*Phragmites australis* (Cav.) Trin. ex Steudel

Vicinity of Amasya Stadium, edge of Yeşilirmak River, moist place; 400 m., 11.IX.1994, *Cansaran* 636. *Euro.-Sib. El.*

*Digitaria sanguinalis* (L.) Scop.

Meydanbağları surroundings, roadsides; 400 m., 09.VIII.1994, *Cansaran* 609.

*Setaria viridis* (L.) P. Beauv.

Meydanbağları surroundings, roadsides; 400 m., 09.VIII.1994, *Cansaran* 608.

*S. verticillata* (L.) P. Beauv. var. *verticillata*

Meydanbağları place, road sides; 400 m., 09.VIII.1994, *Cansaran* 607.

*Pennisetum orientale* L.C.M. Richard

Kırklar Dağı, N slopes; 580 m., 19.VI.1994, *Cansaran* 417. *Ir.-Tur. El.*

*Sorghum halepense* (L.) Pers. var. *halepense*

Karaman Dağı, S slopes; 500 m., 10.VII.1994, *Cansaran* 586. (det. H. Duman)

*Chrysopogon gryllus* (L.) Trin. subsp. *gryllus*

Kırklar Dağı, E slopes, NW of A. Cast.; 530 m., 22.V.1994, *Cansaran* 341.

*Bothriochloa ischaemum* (L.) Keng

Karaman Dağı, N slopes, 2 km. SW of Y. vill.; 820 m., 19.VI.1994, *Cansaran* 471. (det. H. Duman)