

The Flora of Dört Yol and Erzin Districts of Hatay Province in Turkey

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Abstract: The plants listed in this study were collected in the districts of Dört Yol and Erzin (Hatay) between 1989 and 1992. The study area, situated at the middle of Amanos Mountains, has a climate typical of its topographic structure and geographical position in the Mediterranean region. During floristic studies, 629 vascular plant taxa, belonging to 328 genera and 98 families were determined. The distribution of these taxa according to phytogeographic regions are as follows: 29.9% Mediterranean, 10.3% Euro-Siberian, 5.8% Irano-Turanian and 54.0% cosmopolitan and unknown. The number of endemic taxa are 47 (15 of them is local endemic) and the endemism rate is 7.5%.

Key Words: Flora, Amanos Mountains, Phytogeographical Region.

Dört Yol - Erzin (Hatay) Florası

Özet: Bu çalışmada verilen bitkiler 1989-1992 yılları arasında Dört Yol-Erzin (Hatay)'den toplanmıştır. Toros sıradağlarının güneye doğru bir uzantısı olan Amanos dağlarının orta bölümünde yer alan araştırma alanı coğrafik konumu ve topoğrafik yapıdan kaynaklanan tipik bir iklime sahiptir. Çalışmalar sonucu bölgede 98 familya ve 328 cinsine ait 629 vasküler bitki taksonu belirlenmiştir. Bu taksonların fitocoğrafik bölgelere dağılımları şöyledir: Akdeniz %29.9, Avrupa-Sibirya %10.3, İran Turan %5.8, Çok bölge ve bilinmeyenler %54.0'dir. Endemiklerin toplam sayısı 47 (15'i yöresel) olup endemizm oranı %7.5'dir.

Anahtar Sözcükler: Flora, Amanos Dağları, Fitocoğrafik Bölge.

Introduction

The study area (the districts of Dört Yol and Erzin in Hatay) which comprises 86 256 ha. lies on the western slopes of the Amanos Mountains. This area is bordered by the Mediterranean Sea to the west, the district of Osmaniye (Adana) to the north, the district of Hassa (Hatay) to the east and the district of İskenderun (Hatay) to the south. The study area, one the water retaining basins in Turkey, is known as "Dört Yol Deliçay Basin" (1). The research area falls within C6 of the grid system adopted by Davis (2) (Fig 1).

The altitude of the area increases from to 2240 m from west to east. The altitude of Miğır Tepe is 2240 m., which is the highest point in the area. The Erzin, Özerli, Deliçay and Payas streams, which originate in the research area, flow to İskenderun Gulf (1).

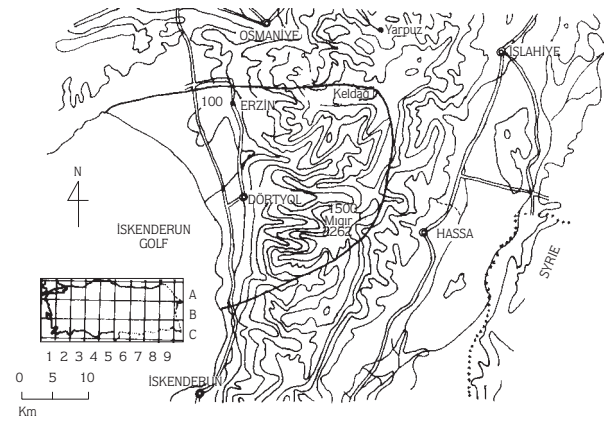


Fig. 1. Location of the Study Area.

The slopes of the area generally face the west and southwest. The topographic structure is very steep and broken.

The geological structure of the area is formed from Mesozoic and Cretaceous limestones, Upper Cretaceous ultra-basic rocks (Gabbro and Serpentine) and Tertiary marls. The plains in the area consist of Quaternary alluvial materials (3).

Common soil formations distinguished in the area are as follows: Brown *Calcareousless* soils, Brown Forest soils, Terrarosa soils, Reddish - Brown Mediterranean soils, Colluvial soils and mixed land types (3).

The study area has a Mediterranean climate, the main characteristics of which are drought and both summers and rainy and temperature winters. The annual precipitation varies from 1019 to 1500 mm., depending on the altitude and type of hills. The seasonal precipitation regime during the year is as follows: Winter, Spring, Autumn, and Summer. This is a typical first variant of the East Mediterranean climate. Snowfall rarely occurs except on the higher ground above 1000 m from the beginning of December until the end of March. In the study area, the annual mean temperature is 19.1 °C. The maximum mean temperature (M) is 32.2°C, August. The minimum mean temperature (m) is 6.8 °C, in January. The ombrothermic diagram of the study area was prepared according to climate data (4) obtained from Dörtüyl Meteorological Station (Fig. 2).

According to Emberger, the precipitation-temperature coefficient ($Q_2 = 137$, $m = 6.8$) indicates a Mediterranean climate with humid and hot weather.

The study area lies within the Mediterranean phytogeographical region. Three main vegetation types can be distinguished in the study area:

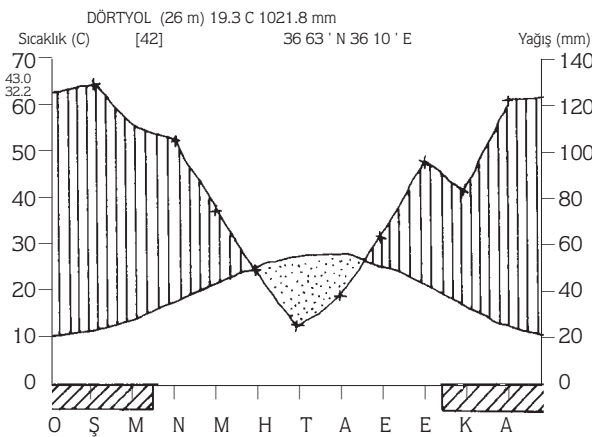


Figure 2. Ombrothermic Diagram of Dörtüyl.

1. Macchie vegetation, from 50 to 600 m., consists of evergreen shrubs. Common species include *Quercus coccifera* L. (*Fagaceae*), *Erica manipuliflora* Salisb. (*Ericaceae*), *Rhamnus punctatus* Boiss. var. *angustifolius* Post (*Rhamnaceae*), *Pistacia terebinthus* L. subsp. *palaestina* (Boiss) Engler (*Anacardiaceae*), *Cotinus coggygria* Scop. (*Anacardiaceae*), *Phyllyrea latifolia* L. subsp. *orientalis* Seb. (*Oleaceae*), *Myrtus communis* L. subsp. *communis* (*Myrtaceae*), *Arbutus andrachne* L. (*Ericaceae*), *Styrax officinalis* L. (*Styracaceae*), *Calicotome villosa* (Poir.) Link (*Leguminosae*) and *Cistus creticus* L. (*Cistaceae*).

2. Forest vegetation, from 350 to 1900 m., occupies different zones depending on local climate conditions, altitude and position. Tekkoz and Kengerlidüz in this belt have designated "Special Protected Areas" by the Turkish Ministry of Forestry. The common tree species in this belt are as follows: *Fagus orientalis* Lipsky. (*Fagaceae*), *Pinus brutia* Ten. (*Pinaceae*), *Quercus cerris* L. var. *cerris* (*Fagaceae*), *Pinus nigra* Arnold. subsp. *pallasiana* (Lamb.) Holmb. (*Pinaceae*), *Carpinus orientalis* Miller (*Corylaceae*), *Cedrus libani* A. Rich. (*Pinaceae*) and *Abies cilicica* (Anto. et Kotschy), Carr. (*Pinaceae*).

3. Steppe vegetation is mostly found just above the timberline at 1900 m. The dominant species of this plant belt are as follows: *Acantholimon libanoticum* Boiss. (*Plumbaginaceae*), *Marrubium globosum* Mont. et Auch. ex Benth. subsp. *globosum* (*Labiatae*), *Astragalus macrourus* Fisch. et Mey. (*Leguminosae*), *Ferula elaeochytris* Korovin (*Umbelliferae*), *Rosa pulverulenta* Bieb. (*Rosaceae*), *Cerasus prostrata* (Lab.) Ser. var. *prostrata* (*Rosaceae*), *Cotoneaster nummularia* Fisch. et Mey. (*Rosaceae*), *Vincetoxicum tmoleum* Boiss. (*Asclepiadaceae*), *Asperula stricta* Boiss. subsp. *monticola* Ehrend. (*Rubiaceae*), *Thymus kotschyanus* Boiss. & Hohen var. *glabrescens* Boiss. (*Labiatae*), *Verbascum amanum* Boiss. (*Scrophulariaceae*), *Asphodelina damascena* (Boiss.) Baker subsp. *damascena* (*Liliaceae*), *Echinops ritro* L. (*Compositae*) and *Eremurus spectabilis* Bieb. (*Liliaceae*).

The study area has not been subjected to detailed floristic study before but has been studied phytosociologically as part of the Amanos Mountains in 1967 by Akman (3).

Materials and Methods

The materials of this investigation were comprised 629 plant specimens collected in Dörtüyl and Erzincan (Hatay Province) in the Amanos Mountains during a

study of postfire regeneration in *Pinus brutia* forest ecosystems by Türkmen. All the plant specimens were identified according to the Flora of Turkey (2,5). All the herbarium specimens are kept at the Herbarium at the Science and Arts Faculty of Çukurova University (ADA). The list of plant taxa follows the sequence of families, genera and species adopted in Flora of Turkey (2). The flora is listed in the appendix. After the name of every species in the list, the geographical location (the area lies entirely within "C6 Hatay", which is been omitted from the citation), habitat, collection date, phytogeographical region and collection number are stated. An asterisk (*) in front of a plant name indicates a new record for the C6 grid square.

The abbreviations used are as follows: Med. = Mediterranean element, Euro-Sib. = Euro-Siberian element, Ir. - Tur. = Irano - Turanian element, Cosms. = Cosmopolitan and End. = Endemic species.

Discussion and Conclusion

During the floristic studies of the districts of Dörtöyl and Erzin in the province of Hatay, carried out between 1989 and 1992, a total of 629 vascular plant taxa belonging to 328 genera and 98 families were recorded. The distribution of plant taxa according to phytogeographical regions is as follows: Mediterranean, 188 (29.9%); Euro-Siberian, 65 (10.3 %); Irano-Turanian, 37 (5.8%); Cosmopolitan and unknown, 340 (54.0%). The number of total endemic taxa is 47 and nearly one out of three of these (15 taxa) is peculiar to the study area (Amanos Mountains). Most of the phytogeographical elements are naturally of Mediterranean origin as a result of the area being situated in the Mediterranean region. The fact that the ratio of Euro-Siberian elements is rather high, these taxa having migrated south by means of the Anatolian Diagonal in the Ice Age of the Pleistocene Age, reveals the humid climatic conditions in study area (6).

The comparison of the distribution of phytogeographical elements in the study area and neighbouring regions is as follows:

Floristic Region	Present Study	Akman (1973)	Düzenli (1990)	Türkmen (1989)
Mediterranean	29.9	65.0	42.6	36.4
Euro-Siberian	10.3	7.0	1.6	2.6
Irano-Turanian	5.8	2.5	2.2	3.1
Cosmopolitan and Unknown	54.0	25.5	54.4	56.9
Endemic	7.5	3.0	2.2	4.8

Our results are similar to those of Akman (3), among others (7,8). Both studies were carried out in similar climatic, edaphic and orographic conditions. The fact that the proportion of Mediterranean elements in Akman's study is greater than in ours can be attributed to his acceptance than most of the plant species he collected were adapted to the Mediterranean climate. Although the study areas of Türkmen (7) and Düzenli (8) are within the Mediterranean region, the proportion of Euro-Siberian elements in their studies shows great deviation compared to ours due to different climatic and orographic conditions.

On the northern slopes of Miğır Mountain *Fagus orientalis* formations, which are widespread especially in the Euro-Siberian floristic region of Turkey, constitute a large community on the intrusive bedrock at 1 600 to 1900 m. From a phytosociological perspective, this is a very interesting Euro-Siberian enclave in the area. The presence of *Fagus orientalis* in the study area may be due to local microlima in the study area, the existence of many small streams, the Iskenderun Gulf, the orographic precipitation and foggy days, which make the humidity rather higher than in other Mediterranean regions.

The families representing the highest number of species are *Leguminosae*, 77 (12.2%); *Compositae*, 67 (10.7%); *Gramineae*, 44 (7.0%); *Labiatae*, 38 (6.0%); *Cruciferae*, 30 (4.8%); *Liliaceae*, 29 (4.6%); *Rosaceae*, 25 (4.0%); *Scrophulariaceae*, 21 (3.3%); *Umbelliferae*, 20 (3.2) and *Caryophyllaceae*, 20 (3.2%).

The genera with the highest number of species are *Trifolium* L. 13, *Astragalus* L. 8, *Vicia* L. 8, *Verbascum* L. 7, *Silene* L. 7, *Euphorbia* L. 7, *Thlaspi* L. 7, *Alyssum* L. 6, *Galium* L. 6 and *Hypericum* L.

After careful studies of the relevant papers on this district (9, 10, 11), a total of 42 (6.7%) can be stated as being new records for the C6 square (12).

Silene flavesces Waldst. & Kit. (*Caryophyllaceae*), has been reported Banat (Jugoslavia), and is distributed in the Balkans, Bulgaria, Romania and Hungary but has only been recorded on Lesvos Island in Flora of Turkey (2). With this study, it is now confirmed within mainland Turkey.

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APPENDIX

THE PLANT LIST

PTERIDOPHYTA

EQUISETACEAE

**Equisetum palustre* L.

Dörtöyl, around Çökek, streamside, 550 m, 8.5.1992, Türkmen 428.

ADIANTACEAE

Adiantum capillis-veneris L.

Dörtöyl, around Çökek, Rillside, 650 m, 8.5.1990, Türkmen 416.

HYPOLEPIDACEAE

Pteridium aquilinum (L.) Kuhn

Dörtöyl, around Topaktaş Q.cerris forest, 1070 m, 26.6.1989, Türkmen 425.

ASPLENIACEAE

Asplenium trichomanes L.

Dörtöyl, between Mışmış and Güçük, roadside, 1350 m, 4.6.1990, Türkmen 421.

A. adiantum-nigrum L.

Erzin, east of Başlamış Village, Rillside, 800 m, 27.12.1990, Türkmen 420.

Ceterach officinarum DC.

Dörtöyl, streamside, 650 m, 8.5.1990, Türkmen 422.

Phyllitis scolopendrium (L.) Newm.

Dörtöyl, around Ciğersiz spring, mixed forest, wet areas, 1050 m, 27.12.1991, Türkmen 423.

ATHYRIACEAE

Athyrium filix-foemina (L.) Roth.

Dörtöyl, around Topaktaş roadside, 1550 m, 28.9.1990, Türkmen 424.

ASPIDIACEAE

Polystichum setiferum (Forssk.) Woy-nar.

Dörtöyl, around Kapulu, roadside, 1080 m, 29.5.1991, Türkmen 419.

Dryopteris filix-mas (L.) Schott.

Erzin, top slopes of Keldağ, rocky areas, 2100 m, 27.8.1991, Türkmen 417.

D. pallida (Bory) Fomin.

Erzin, top slopes of Keldağ, rocky areas, 2100 m, 27.8.1991, Med. Türkmen 418.

POLYPODIACEAE

Polypodium vulgare L. subsp. *vulgare*

Dörtöyl, around Tekkoz, mixed forest, Hillside, 800 m, 24.4.1989, Türkmen 427.

P. australe Feé.

Erzin, east of Başlamış Village, Hillside, 800 m, 27.12.1990, Türkmen 426.

SPERMATOPHYTA

GYMNOSPERMAE

PINACEAE

Abies cilicica (Ant.& Kotschy) Carr. subsp. *cilicica*

Dörtöyl, around Akelma, F. orientalis forest, 1550 m, 31.5.1990, Med., Türkmen 431.

Cedrus libani A.Rich.

Dörtöyl, around Karagöz, mixed forest, 1650 m, 31.5.1990, Med., Türkmen 432.

Pinus nigra Arnold. subsp. *pallasiana* (Lamb.) Holmboe

Erzin, around Kengerlidüz, mixed forest, 1700 m, 11.9.1989, Türkmen 434.

P. brutia Ten.

Erzin, east of Başlamış Village, P. brutia forest, 650 m, 5.4.1990, Türkmen 433.

TAXACEAE

Taxus baccata L.

Dörtöyl, around Karagöz, degraded forest, 1700 m, 29.5.1991, Türkmen 435.

CUPRESSACEAE

Juniperus oxycedrus L. subsp. *oxycedrus*

Erzin, top slopes of Keldağ, stony areas, 2100 m, 28.6.1990, Türkmen 429.

EPHEDRACEAE

Ephedra campylopoda C.A.Meyer

Dörtöyl, streamside, 20 m, 27.9.1990, Türkmen 430.

ANGIOSPERMAE

DICOTYLEDONES

RANUNCULACEAE

Clematis vitalba L.

Erzin, around İçme, streamside, 300 m, 31.8.1990, Türkmen 825.

- C. flammula* L.
Between Dörtöyl and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 824.
- Adonis annua* L.
Between Dörtöyl and Erzin, onion field, 150 m, 3.6.1990, Türkmen 823.
- Ranunculus cuneatus* Boiss.
Dörtöyl, around Karagöz, steppe, 1660 m, 31.5.1990, Türkmen 827.
- R. chius* DC.
Dörtöyl, around Çökek, stremside, 850 m, 8.5.1990, Türkmen 826.
- Thalictrum orientale* Boiss.
Dörtöyl, between Mışmış and Gücük, mixed forest roadside, 1200 m, 4.6.1990, Med., Türkmen 828.
- PAEONIACEAE**
- Paeonia mascula* (L.) Miller subsp. *mascula*
Dörtöyl, around Kırkelma, F.orientalis forest, 1500 m, 30.5.1991, Türkmen 793.
- 141 **PAPAVERACEAE**
- Papaver rhoeas* L.
Erzin, east of Başlamış Village, macchie, 450 m, 4.5.1990, Türkmen 796.
- P. syriacum* Boiss. & Blanche
Erzin, east of Başlamış Village, P. brutia forest roadside, 500 m, 30.5.1990, Türkmen 797.
- Hypecoum procumbens* L.
Erzin, around İçme, degraded macchie, 300 m, 2.4.1992, Med., Türkmen 795.
- Corydalis rutifolia* (Sibth. & Sm.) DC. subsp. *erdellii* (Zucc.) Cullen & Davis
Dörtöyl, top slopes of Miğir, stony areas, 1800-2100 m, 4.6.1992, Türkmen 794.
- CRUCIFERAE (BRASSICACEAE)**
- Raphanus raphanistrum* L.
Dörtöyl, garden border, 70 m, 7.5.1990, Türkmen 603.
- Cardaria draba* (L.) Desv. subsp. *draba*
Dörtöyl, around Karagöz, steppe, 1660m, 31.5.1990, Türkmen 596.
- Isatis candolleana* Boiss.
Dörtöyl, around Kirmenkaya, Q.cerris forest, 1720m, 31.5.1990, Ir.-Tur., End., Türkmen 601.
- Iberis taurica* DC.
Dörtöyl, around Kirmenkaya, roadside, 1720 m, 31.5.1990, Türkmen 600.
- **I. spruneri* Jord.
Erzin, around İçme, degraded macchie, 300 m, 2.4.1990, Med., Türkmen 599.
- Aethionema capitatum* Boiss. & Ball.
Erzin, top slopes of Keldağ, stony areas, 2000 m, 28.6.1990, End., Türkmen 585.
- Thlaspi kotschyanum* Boiss. & Hohen.
Dörtöyl, around Karamezla, F. orientalis forest, 1750 m, 30.5.1991, Türkmen 609.
- T. violascens* Boiss.
Erzin, around İçme, macchie, 400 m, 28.5.1991, End., Türkmen 612.
- T. annuum* Koch
Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 28.3.1991, Türkmen 606.
- T. densiflorum* Boiss. et Kotschy
Dörtöyl, around Karamezla, F. orientalis forest, 1750 m, 30.5.1991, End., Türkmen 607.
- **T. praeocox* Wulf
Dörtöyl, between Mışmış and Gücük, clearing of F.orientalis forest, 1350 m, 4.6.1990, Euro-Sib., Türkmen 611.
- T. elegans* Boiss.
Erzin, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Med., End., Türkmen 608.
- T. oxyceras* (Boiss.) Hedge
Erzin, around Tekkoz, mixed forest roadside, 950 m, 31.5.1991, Türkmen 610.
- Capsella bursa-pastoris* (L.) Medik.
Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 595.
- Neslia apiculata* Fisch.
Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 602.
- Ricotia sinuata* Boiss. & Heldr.
Dörtöyl, around Çökek, P. brutia forest, 850 m, 8.5.1990, Med., End., Türkmen 604.
- Alyssum desertorum* Stapf. var. *prostratum* Dudley
Erzin, top slopes of Keldağ, stony areas, 2000 m, 28.6.1990, Türkmen 588.
- A. strigosum* Banks & Sol. subsp. *strigosum*
Erzin, around İçme, macchie, 300 m, 2.4.1990, Türkmen 591.
- A. condensatum* Boiss. & Hauss. subsp. *flexibile* (Nyar) Dudley
Erzin, top slopes of Keldağ, 1700-2100 m, 28.6.1990, End., Türkmen 587.
- A. murale* Waldst. & Kit. var. *haradjianii* (Rech.) Dudley
Dörtöyl, streamside, 30 m, 2.8.1990, End., Türkmen 589.
- A. cassium* Boiss.
Erzin, around Kengerlidüz, steppe, 1650-2000 m, 28.6.1990, Med., Türkmen 586.
- A. samariferum* Boiss. & Hsusskn.
Erzin, top slopes of Keldağ, stony areas, 1800-2100 m, 27.8.1991, Türkmen 590.
- Arabis turrita* L.
Between Dörtöyl and Erzin, clearing of F. orientalis forest, 1350 m, 4.6.1990, Türkmen 594.
- A. caucasica* Willd. subsp. *caucasica*
Erzin, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Türkmen 593.
- A. caucasica* Willd. subsp. *brevifolia* (DC.) Cullen
Erzin, top slopes of Keldağ, stony areas, 2100 m, 28.6.1990, Med., Türkmen 592.
- Turritis glabra* L.
Dörtöyl, between Mışmış and Gücük, F. orientalis forest, 1350 m, 4.6.1990, Türkmen 613.
- T. laxa* (Sibth. & Sm.) Hayek
Dörtöyl, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Türkmen 614.
- Erysimum goniocaulon* Boiss.
Dörtöyl, around Karagöz, mixed forest, 1700 m, 29.5.1991, Türkmen 598.

- E. alpestre** Kotschy ex Boiss.
Dörtyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Ir.-Tur., End., Türkmen 597.
- Sisymbrium altissimum** L.
Between Dörtyol and Erzin, wheat field, 100 m, 3.6.1990, Türkmen 605.
- CAPPARACEAE**
- Capparis spinosa** L. var. **spinosa**
Between Dörtyol and Çökek, roadside, 250 m, 8.5.1990, Türkmen 471.
- CISTACEAE**
- Cistus creticus** L.
Erzin, east of Başlamış Village, macchie, 450 m, 3.5.1990, Med., Türkmen 498.
- C. salviifolius** L.
Dörtyol, around Çardak, roadside, 1400 m, 31.5.1990, Türkmen 499.
- Helianthemum nummularium** (L.) Miller subsp. **tomentosum** (Scop.) Schnz et Thellung
Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Türkmen 503.
- H. ledifolium** (L.) Miller var. **microcarpum** Willk.
Dörtyol, around Karamezla, clearing of *F. orientalis* forest, 1760 m, 28.8.1991, Türkmen 502.
- Fumana arabica** (L.) Spach var. **arabica**
Erzin, east of Başlamış Village, macchie, 500 m, 30.5.1990, Türkmen 501.
- F. thymifolia** (L.) Variot var. **thymifolia**
Between Dörtyol and Erzin, degraded macchie, 100 m, 3.6.1990, Med., Türkmen 500.
- VIOLACEAE**
- Viola alba** Besser subsp. **dehnhardtii** (Ten.) Becker
Erzin, east of Başlamış Village, *P. brutia* forest, rillsides, 800 m, 5.4.1990, Türkmen 939.
- V. shieana** Becker
Dörtyol, around Tekkoz, *P. nigra* forest, 1000 m, 31.5.1991, Türkmen 940.
- POLYGALACEAE**
- Polygala supina** Schreb.
Erzin, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Türkmen 807.
- P. comosa** Schkur
Erzin, around Tekkoz, roadside, 900 m, 31.5.1991, Türkmen 806.
- PORTULACACEAE**
- Portulaca oleracea** L.
Dörtyol, dry stream bed, 30 m, 2.8.1990, Türkmen 817.
- CARYOPHYLLACEAE**
- Arenaria leptoclados** (Reichb.) Gauss.
Dörtyol, around Topaktaş roadside, 1400 m, 28.9.1990, Türkmen 475.
- Minuartia tchihatchewii** (Boiss.) Hand.-Mazz.
Dörtyol, top slopes of Miğir, stony areas, 2140 m, 28.8.1991, End., Türkmen 483.
- M. mesogitana** (Boiss.) Hand.-Mazz. subsp. **mesogitana**
Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 482.
- M. hybrida** (Vill.) Schischk. subsp. **hybrida**
Erzin, top slopes of Keldağ, stony areas, 1700-2100 m, 28.6.1990, Türkmen 481.
- Moehringia trinervia** (L.) Clairv.
Dörtyol, around Karamezla, *F. orientalis* forest, 1550 m, 30.5.1991, Türkmen 484.
- Cerastium saccardoanum** Dirat
Dörtyol, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Ir.-Tur., Türkmen 477.
- C. glomeratum** Thuill.
Erzin, east of Başlamış Village, macchie, 500m, 5.4.1990, Cosm., Türkmen 476.
- Telephium imperati** L. subsp. **orientale** (Boiss.) Nyman
Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Türkmen 493.
- Dianthus polycladus** Boiss.
Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Med., Türkmen 479.
- D. orientalis** Adams
Dörtyol, top slopes of Miğir, stony areas, 2100 m, 28.9.1990, Türkmen 478.
- Petrorhagia velutina** (Guss.) Ball & Heyward
Dörtyol, around Güçük, clearing of *P. nigra* forest, 1400 m, 4.6.1990, Türkmen 485.
- Gypsophila libanotica** Boiss.
Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Med, Türkmen 480.
- Vaccaria pyramidata** var. **grandiflora** (Fisch. ex DC.) Cullen
Dörtyol, roadsides, 70 m, 7.5.1990, Türkmen 494.
- Silene italica** (L.) Pers.
Dörtyol, around Akelma, *Q. cerris* forest, 1550 m, 31.5.1990, Türkmen 490.
- S. confertiflora** Chowdh.
Erzin, east of Başlamış Village, *P. brutia* forest roadside, 800 m, 31.8.1991, Türkmen 488.
- S. odontopetala** Fenzl
Dörtyol, top slopes of Miğir, stony areas, 2140 m, 28.8.1991, Türkmen 491.
- S. vulgaris** (Moench) Garcke var. **vulgaris**
Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Türkmen 492.
- ***S. flavescens** Waldst. & Kit.
Dörtyol, around Karamezla, clearing of *F. orientalis* forest, 1750 m, 30.5.1991, Türkmen 489. (It is first record from Anatolia).
- S. compacta** Fischer
Dörtyol, around Tohtak, *Q. cerris* forest roadside, 1450 m, 3.7.1990, Türkmen 487.
- S. aegyptiaca** (L.) L.fil. subsp. **aegyptiaca**
Dörtyol, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Türkmen 486.
- ILLECEBRACEAE**
- Herniaria hirsuta** L.
Dörtyol, top slopes of Miğir, stony areas, 1750-2150 m, 28.9.1990, Türkmen 656.
- Paronychia argentea** Lam var. **scar-ioussima** Post
Erzin, around İçme, degraded macchie, 300 m, 2.4.1990, Med., Türkmen 657.

Scleranthus annuus L. subsp. **annuus**

Dörtyol, around Karamezla, F. orientalis forest, 1750 m, 30.5.1991, Türkmen 658.

POLYGONACEAE***Polygonum persicaria** L.

Dörtyol, dry stream bed, 20 m, 27.9.1990, Türkmen 810.

P. aviculare L.

Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 25.7.1991, Cosm., Türkmen 808.

P. polycnemoides Saub. & Spach

Dörtyol, top slopes of Mıgır, stony areas, 2100 m, 4.6.1990, Ir.-Tur., Türkmen 811.

P. convolvulus L.

Erzin, east of Başlamış Village, P. brutia forest, Hillside, 700 m, 25.7.1991, Türkmen 809.

Rumex acetosella L.

Dörtyol, around Kirmenkaya, Q. cerris forest, 1720 m, 31.5.1990, Cosm., Türkmen 812.

R. angustifolius Campd. subsp. **angustifolius**

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmen 813.

R. conglomeratus Murray

Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 815.

R. chalepensis Miller

Dörtyol, around Çökek, rillsides, 850 m, 8.5.1992, Türkmen 814.

R. pulcher L.

Erzin, east of Başlamış Village, degraded macchie, 450 m, 30.5.1990, Türkmen 816.

CHENOPODIACEAE

Chenopodium foliosum (Moench.) Aschers.

Dörtyol, dry stream bed, 20 m, 29.11.1990, Türkmen 497.

***Ch. album** L. subsp. **album** var. **album**

Erzin, east of Başlamış Village, roadsides, 350 m, 22.8.1991, Türkmen 496.

AMARANTHACEAE***Amaranthus chlorostachys** Willd.

Dörtyol, dry stream bed, 20 m, 29.11.1990, Türkmen 438.

***A. lividus** L.

Erzin, around İçme, field borders 400 m, 31.8.1990, Türkmen 438.

A. blitoides S. Wats.

Dörtyol, dry stream bed, 30 m, 2.8.1990, Türkmen 437.

PHYTOLACCACEAE**Phytolacca pruniosa** Fenzl

Dörtyol, around Karamezla, F. orientalis forest roadside, 1760 m, 28.8.1991, Med, Türkmen 798.

TAMARICACEAE**Tamarix smyrniensis** Bunge

Dörtyol, streamsides, 30 m, 2.8.1990, Türkmen 907.

GUTTIFERAE (HYPERICACEAE)

Hypericum elongatum Ledeb. subsp. **microcalycinum** (Boiss.& Heldr.) Robson

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmen 651.

H. confertum Choisy subsp. **stenobotrys** (Boiss.) Holmb.

Erzin, top slopes of Keldağ, stony areas, 1700-2100 m, 28.6.1990, Türkmen 650.

H. thymifolium Banks. et Sol.

Erzin, east of Başlamış Village, macchie, 600 m, 22.8.1991, Med., Türkmen 655.

H. montbreti Spach

Erzin, east of Başlamış village, P. brutia forest, 750 m, 27.6.1991, Türkmen 652.

H. origanifolium Willd.

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Türkmen 653.

H. perforatum L.

Dörtyol, around Domuzdamı, roadside, 1250 m, 28.8.1991, Türkmen 654.

MALVACEAE**Malva neglecta** Waldr.

Dörtyol, around Ufacık, roadside, 1540 m, 31.5.1990, Türkmen 780.

Alcea apterocarpa (Fenzl.) Boiss.

Dörtyol, around Topaktaş rocky areas, 1650 m, 28.6.1990, Ir.-Tur., End., Türkmen 778.

Althaea cannabina L.

Dörtyol, around Kozludere, degraded forest, 350 m, 3.7.1990, Türkmen 779.

TILIACEAE**Tilia argentea** Desf.

Dörtyol, around Pekmezci, mixed forest, 1060 m, 30.5.1991, Euro-Sib., Türkmen 910.

LINACEAE**Linum aroanium** Boiss. & Orph.

Erzin, around Tekkoz, mixed forest, 900 m, 31.5.1991, Türkmen 775.

L. bienne Miller

Erzin, top slopes of Keldağ, stony areas, 1850 m, 27.8.1991, Med., Türkmen 776.

GERANIACEAE**Geranium purpureum** Vill.

Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Türkmen 648.

G. robertianum L.

Dörtyol, around Karamezla, F. orientalis forest 1750 m, 30.5.1991, Türkmen 649.

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

Erzin, garden edges, 250 m, 2.4.1990, Türkmen 647.

G. columbinum L.

Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Türkmen 645.

G. libanoticum Schenk

Dörtyol, around Gücük, F. orientalis forest, 1650 m, 4.6.1990, Türkmen 646.

Erodium acaule (L.) Becherer & Thell.

Erzin, around İçme, roadside, 300 m, 27.2.1991, Med., Türkmen 644.

OXALIDACEAE**Oxalis corniculata** L.

Erzin, east of Kızlarçayı Village, streamside, 700 m, 22.8.1991, Cosm., Türkmen 792.

ZYGOPHYLLACEAE**Tribulus terrestris** L.

Dörtyol, around BOTAŞ, roadside, 70 m, 3.7.1990, Türkmen 942.

ACERACEAE

Acer platanoides L.

Erzincan, around Kengerlidüz, mixed forest, 1750 m, 28.6.1990, Euro-Sib., Türkmén 436.

STAPHYLACEAE

Staphylea pinnata L.

Dörtöyl, around Tekkoz, mixed forest, 1000 m, 30.5.1991, Türkmén 905.

VITACEAE

Vitis sylvestris Gmelin

Erzincan, around İçme, streamside, 350 m, 30.5.1991, Türkmén 941.

RHAMNACEAE

Paliurus spina-christi Miller

Erzincan, around İçme, streamside, 300 m, 26.9.1990, Türkmén 829.

Rhamnus libanoticus Boiss.

Dörtöyl, top slopes of Miğır, rocky areas, 2150 m, 28.8.1991, Türkmén 831.

Rh. alaternus L.

Erzincan, around İçme, streamside, 350 m, 28.5.1991, Med., Türkmén 830.

Rh. punctatus Boiss. var. **angustifolius** Post

Erzincan, around İçme, degraded macchie, 400 m, 26.9.1991, Med., Türkmén 832.

AQUIFOLIACEAE

Ilex colchica Poj.

Dörtöyl, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Euro-Sib., Türkmén 445.

ANACARDIACEAE

Rhus coriaria L.

Erzincan, around Kengerlidüz, clearing of mixed forest, 1700 m, 28.6.1990, Türkmén 442.

Cotinus coggyria Scop.

Erzincan, east of Başlamış Village, macchie, 550 m, 30.5.1990, Türkmén 440.

Pistacia terebinthus L. subsp. **palaeatina** (Boiss.) Engler

Erzincan, east of Başlamış Village, macchie, 550 m, 28.6.1990, Türkmén 441.

CELASTRACEAE

Euanymus latifolius (L.) Mill. subsp. **latifolius**

Dörtöyl, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Euro-Sib., Türkmén 495.

LEGUMINOSAE (FABACEAE)

Ceratonia siliqua L.

Erzincan, east of Başlamış Village, macchie, 330 m, 27.2.1991, Med., Türkmén 708.

Cercis siliquastrum L. subsp. **hebecarpa** (Bornm.) Yalt.

Erzincan, east of Kızlarçayı Village, P. brutia forest, 650 m, 17.4.1989, Türkmén 709.

Prosopis farcta (Banks & Sol.) Macbride

Between Dörtöyl and Erzincan, field margin 150 m, 3.6.1990, Türkmén 746.

Sophora jaubertii Spach

Dörtöyl, around Kapulu, clearing of mixed forest, 1050 m, 20.7.1990, Euro-Sib., Türkmén 749.

Chamaecytisus hirsutus (L.) Link

Erzincan, east of Başlamış Village, P. brutia forest, 550 m, 30.5.1990, Türkmén 711.

C. drepanolobus (Boiss.) Rothm.

Erzincan, east of Başlamış Village, P. brutia forest, 650 m, 30.5.1990, Med., End., Türkmén 710.

Gonocytisus angulatus (L.) Spach

Erzincan, east of Başlamış Village, macchie, 450 m, 27.6.1990, Med., Türkmén 722.

Genista lydia Boiss. var. **lydia**

Dörtöyl, around İçkoz, P. nigra forest, 1550 m, 29.5.1991, Türkmén 721.

G. lydia Boiss. var. **antiochia** (Boiss.) P. Gibbs.

Erzincan, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmén 720.

G. anatolica Boiss.

Erzincan, east of Başlamış Village, macchie, 400 m, 27.6.1990, Med., Türkmén 719.

Spartium junceum L.

Erzincan, east of Başlamış Village, macchie, 500 m, 28.6.1990, Med., Türkmén 750.

Calicotome villosa (Poir.) Link

Between Dörtöyl and Erzincan, macchie, 100 m, 2.4.1992, Med., Türkmén 1044.

Lupinus angustifolius L. subsp. **angustifolius**

Dörtöyl, garden border, 35 m, 5.4.1990, Türkmén 733.

Colutea cilicica Boiss. et Bal.

Erzincan, around Kengerlidüz, mixed forest, 1600 m, 11.9.1989, Türkmén 712.

Astragalus hamosus L.

Dörtöyl, roadsides, 70 m, 7.5.1990, Türkmén 704.

A. macrourus Fisch. & Mey.

Dörtöyl, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmén 705.

A. depressus L.

Dörtöyl, top slopes of Miğır, stony areas, 1950 m, 4.6.1992, Türkmén 702.

***A. glycyphyllos** L. subsp. **glycyphylloides** (DC.) Matws.

Dörtöyl, around Akelma, P. nigra forest, 1550 m, 31.5.1990, Ir.-Tur., Türkmén 703.

A. russelii Banks & Sol.

Dörtöyl, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmén 706.

A. antiochinus Post

Dörtöyl, around Karagöz, steppe, 1660 m, 31.5.1990, Med., End., Türkmén 700.

A. schizopterus Boiss.

Dörtöyl, around Kirmenkaya, Q. cerris forest, 1720 m, 31.5.1990, Med., End., Türkmén 707.

A. campylosema Boiss. subsp. **campylosema**

Dörtöyl, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., End., Türkmén 701.

Psoralea bituminosa L.

Dörtöyl, around Tekkoz, mixed forest roadside, 950 m, 31.5.1991, Med., Türkmén 747.

Vicia crocea (Desf.) B. Fedtsch.

Dörtöyl, around Gücük, F. orientalis forests, 1350-1850 m, 4.6.1990, Euro-Sib., Türkmén 769.

V. cracca L. subsp. **cracca**

Erzincan, east of Başlamış Village, macchie, 550 m, 20.5.1990, Euro-Sib., Türkmén 768.

- *V. canescens** Lab. subsp. *canescens*
Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, End., Türkmen 767.
- *V. villosa** Roth subsp. *eriocarpa* (Hauskn.) P.W.Ball
Erzin, east of Başlamış Village, P. brutia forest roadside, 650 m, 5.6.1990, Türkmen 774.
- V. lunata** (Boiss. & Bal.) Boiss. var. *grandiflora* Plitm.
Dörtyol, around Çardak, roadsides, 1400 m, 31.5.1990, Türkmen 772.
- V. hybrida** L.
Between Dörtyol and Erzin, wheat field, 100 m, 3.6.1990, Türkmen 771.
- V. grandiflora** Scop. var. *grandiflora*
Dörtyol, around Çardak, roadsides, 1400 m, 31.5.1990, Med., Türkmen 770.
- V. sativa** L. subsp. *sativa*
Between Dörtyol and Erzin, wheat field, 100 m, 31.5.1990, Cosm., Türkmen 773.
- Lens ervoides** (Brign.) Grande
Erzin, east of Başlamış Village, macchie, 450 m, 5.4.1990, Med., Türkmen 729.
- Lathyrus niger** (L.) Bernh. subsp. *niger*
Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1990, Euro-Sib., Türkmen 727.
- L. spathulatus** Cel.
Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 728.
- L. laxiflorus** (Desf.) Kuntze subsp. *angustifolius* (Post ex Dinsm.) Davis
Dörtyol, around Topaktaş F. orientalis forest, 1500 m, 30.5.1990, Med., End., Türkmen 726.
- L. annuus** L.
Dörtyol, roadsides, 70 m, 7.5.1992, Med., Türkmen 724.
- L. aphaca** L. var. *modestus* P.H.Davis
Between Dörtyol and Çökek, macchie, 450 m, 8.5.1992 Med., Türkmen 725.
- Ononis reclinata** L.
Between Dörtyol and Erzin, degraded macchie, 100 m, 3.6.1990, Med., Türkmen 744.
- O. spinosa** L. subsp. *leiosperma* (Boiss.) Sirj.
Dörtyol, around Kozludere, clearing of P. brutia forest, 450 m, 26.6.1989, Türkmen 745.
- O. phyllocephala** Boiss.
Erzin, east of Başlamış Village, degraded macchie, 550 m, 30.5.1990, Med., Türkmen 743.
- Trifolium campestre** Schreb.
Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, Türkmen 754.
- T. fragiferum** L. var. *pulchellum* Lange
Erzin, top slopes of Keldağ, stony areas, 2000 m, 3.7.1990, Türkmen 756.
- T. physoides** Stev. ex Bieb. var. *physoides*
Dörtyol, around Çardak, roadsides, 1400 m, 31.5.1990, Med., Türkmen 760.
- T. physoides** Stev. ex Bieb. var. *psilocalyx* Boiss.
Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Med., Türkmen 761.
- T. resupinatum** L. var. *microcephalum* Zoh.
Dörtyol, around Kırkelma, clearing of F. orientalis forest, 1500 m, 30.5.1991, Türkmen 763.
- T. tomentosum** L.
Dörtyol, around Topaktaş Q. cerris forest, 1070 m, 26.6.1989, Türkmen 764.
- T. davisii** Hossain
Dörtyol, around Çökek, P. brutia forest roadside, Med., End., Türkmen 755.
- T. lucanicum** Gasp.
Erzin, around Karaoluk, clearing of F. orientalis, 1300 m, 26.6.1989, Med., Türkmen 759.
- T. hirtum** All.
Erzin, around Tekkoz, mixed forest roadside, 850 m, 31.5.1991, Med., Türkmen 757.
- T. lappaceum** L.
Erzin, east of Başlamış Village, macchie, 550 m, 31.5.1990, Med., Türkmen 758.
- T. arvense** L. var. *arvense*
Erzin, east of Başlamış Village, macchie, 550 m, 30.5.1990, Türkmen 753.
- T. angustifolium** L. var. *angustifolium*
Erzin, east of Başlamış Village, macchie, 550 m, 30.5.1990, Türkmen 752.
- T. purpureum** Boiss. var. *pamphylicum* (Boiss. & Heldr.) Zoh.
Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Med., Türkmen 762.
- Melilotus indica** (L.) All.
Between Dörtyol and Erzin, roadside, 100 m, 3.6.1990, Türkmen 740.
- M. elegans** Salzm.
Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Med., Türkmen 739.
- *Trigonella spruneriana** Boiss. var. *sibthorpii* (Boiss.) Hub.-Mor.
Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 765.
- T. kotschyi** Fenzl
Between Dörtyol and Erzin, macchie, 100 m, 3.6.1990, Ir.-Tur., Türkmen 766.
- Medicago lupulina** L.
Erzin, east of Başlamış Village, P. brutia forest, 700 m, 27.6.1991, Türkmen 735.
- M. coronota** (L.) Bart.
Between Dörtyol and Çökek, macchie, 450 m, 8.5.1990, Med., Türkmen 734.
- M. minima** (L.) Bart. var. *minima*
Dörtyol, around Çökek, macchie, 450 m, 8.5.1990, Türkmen 736.
- M. polymorpha** L. var. *vulgaris* (Benth.) Shinnars
Between Dörtyol and Erzin, roadside, 100 m, 3.6.1990, Türkmen 737.
- M. rigidula** (L.) All. var. *rigidula*
Between Dörtyol and Erzin, macchie, 100 m, 3.6.1990, Türkmen 736.
- Cytisopsis dorycniifolia** Jaub. & Spach. subsp. *dorycniifolia*
Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.6.1990, Türkmen 713.
- Dorycnium hirsutum** (L.) Ser.
Erzin, east of Kızlarçayı Village, P. brutia forest, 600 m, 5.6.1990, Med., Türkmen 717.
- D. graecum** (L.) Ser.
Erzin, east of Başlamış Village, P. brutia forest, 700 m, 30.5.1990, Euro-Sib., Türkmen 716.

- D. pentaphyllum* Scop. subsp. *haussknechtii* (Boiss.) Gams
Erzin, east of Kızlarçayı Village, macchie, 550 m, 28.5.1991, Türkmen 718.
- Lotus peregrinus* L. var. *peregrinus*
Between Dörtiyol and Erzin, macchie, 130 m, 3.6.1990, Türkmen 732.
- L. angustissimus* L.
Between Dörtiyol and Çökek, macchie, 350 m, 8.5.1990, Türkmen 730.
- L. corniculatus* L. var. *corniculatus*
Dörtiyol, around Karagöz, steppe, 1480 m, 3.7.1990, Türkmen 731.
- Tetragonolobus purpureus* Moench
Erzin east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 751.
- Hymenocarpus circinnatus* (L.) Savi
Erzin, around İçme, macchie, 500 m, 5.4.1990, Med., Türkmen 723.
- Coronilla emerus* L. subsp. *emerus* (Boiss. & Sprun.) Uhrova
Erzin, east of Kızlarçayı Village, macchie, 500 m, 5.4.1990, Türkmen 714.
- C. parviflora* Willd.
Between Dörtiyol and Erzin, macchie, 150 m, Med., Türkmen 715.
- Scorpiurus muricatus* L. var. *subvillosus* (L.) Fiori
Between Dörtiyol and Erzin, macchie, 150 m, 3.6.1990, Med., Türkmen 748.
- Onobrychis caput-galli* (L.) Lam.
Between Dörtiyol and Erzin, macchie, 100 m, 3.6.1990, Med. Türkmen 741.
- O. gracilis* Besser
Between Dörtiyol and Erzin, roadside, 100 m, 3.6.1990, Türkmen 742.
- Alhagi mannifera* Desv.
Dörtiyol, around BOTAŞ, roadside, 70 m, 5.8.1990, Türkmen 699.
- ROASCEAE**
- Prunus spinosa* L. subsp. *dasyphylla* (Schur) Domin
Dörtiyol, around Tekkoz, mixed forest, 950 m, 2.5.1990, Euro-Sib., Türkmen 840.
- P. divaricata* Ledeb. subsp. *divaricata*
Dörtiyol, around Tekkoz, mixed forest, 950 m, 2.5.1990, Türkmen 847.
- Cerasus prostrata* (Lab.) Ser. var. *prostrata*
Erzin, top slopes of Keldağ, 2100 m, 28.6.1990, Türkmen 833.
- Rubus sanctus* Schreber
Erzin, around İçme, streamside, 350 m, 30.5.1990, Türkmen 854.
- R. canescens* DC. var. *glabratus* (Godron) Davis et Meikle
Erzin, around Akoluk, Q. cerris forest, 1250 m, 27.8.1991, Euro-Sib., Türkmen 853.
- Potentilla calycina* Boiss. and Bal.
Dörtiyol, around Ufacık, Q. cerris forest roadside, 1530 m, 31.5.1990, Med., End., Türkmen 843.
- P. kotschyana* Fenzl
Dörtiyol, around Karamezla, Q. cerris forest, 1750 m, 30.6.1991, Med., Türkmen 844.
- **P. aucheriana* Th. Wolf
Dörtiyol, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmen 842.
- P. speciosa* Willd. var. *discolor* Hal.
Dörtiyol, east of Rabat Village, F. orientalis forest, 1430 m, 4.6.1990, Türkmen 846.
- P. micrantha* Remond ex DC.
Dörtiyol, east of Rabat Village, mixed forest roadside, 1400 m, 4.6.1990, Türkmen 845.
- Geum urbanum* L.
Dörtiyol, around Kırıkelta, clearing of F. orientalis forest, 1440 m, 3.7.1990, Euro-Sib., Türkmen 840.
- Sanguisorba minor* Scop. subsp. *muricata* (Spach) Briq.
Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 855.
- Rosa pulverulenta* Bieb.
Erzin, top slopes of Keldağ, stony areas, 2000 m, 26.6.1990, Türkmen 852.
- R. canina* L.
Dörtiyol, around Kapulu, roadside, 1080 m, 29.5.1991, Türkmen 851.
- Cotoneaster nummularia* Fisch. & Mey.
Erzin, top slopes of Keldağ, rocky areas, 2100 m, 28.6.1990, Türkmen 834.
- Fragaria vesca* L.
Dörtiyol, around Topaktaş roadside, 1220 m, 28.8.1991, Türkmen 839.
- Pyracantha coccinea* Roemer
Dörtiyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Türkmen 849.
- Crataegus orientalis* Pallas ex Bieb. var. *orientalis*
Dörtiyol, around Kırıkelta, F. orientalis forest, 1650 m, 28.9.1990, Türkmen 838.
- **C. atrosanguinea* Pojark.
Dörtiyol, around Domuzdamı, mixed forest, 1250 m, 28.8.1991, Ir.-Tur., Türkmen 835.
- C. monogyna* Jacq. subsp. *monogyna*
Erzin, east of Başlamış Village, macchie, 500 m, 30.5.1990, Türkmen 837.
- C. monogyna* Jacq. subsp. *azarella* (Gris.) France
Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Türkmen 836.
- Sorbus umbellata* (Desf.) Fritsch var. *cretica* (Lindl.) Schn.
Erzin, around Kengerlidüz, mixed forest, 1750 m, 11.6.1989, Türkmen 857.
- S. torminalis* (L.) Crantz. var. *torminalis*
Erzin, east of Başlamış Village, P. brutia forest, 800 m, 30.5.1990, Euro-Sib., Türkmen 856.
- Malus sylvestris* Miller subsp. *orientalis* (A.Uglitz.) Browicz var. *orientalis*
Dörtiyol, around Kırıkelta, F. orientalis forest 1500 m, 30.5.1991, Türkmen 841.
- Pyrus syriaca* Boiss. var. *syriaca*
Between Dörtiyol and Erzin, field border, 150 m, 5.6.1990, Türkmen 850.
- MYRTACEAE**
- Myrtus communis* L. subsp. *communis*
Erzin, around İçme, macchie, 450 m, 27.6.1990, Türkmen 782.
- PUNICACEAE**
- Punica granatum* L.

Erzin, around İçme, streamside, 350 m, 28.5.1991, Türkmen 821.

ONAGRACEAE

Epilobium montanum L.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Euro-Sib., Türkmen 787.

CRASSULACEAE

Rosularia libanotica (Lab.) Muirhead

Erzin, top slopes of Keldağ, rocky areas, 2100 m, 27.8.1991, Med., Türkmen 579.

Sedum album L.

Dörtyol, top slopes of Miğir, rocky areas, 2100 m, 31.5.1990, Türkmen 580.

S. caespitosum (Cav.) DC.

Erzin, top slopes of Keldağ, rocky areas, 2100 m, 3.7.1990, Med., Türkmen 581.

S. hispanicum L. var. *hispanicum*

Dörtyol, around Akelma, clearing of *Q. cerris* forest, 1530 m, 31.5.1990, Türkmen 582.

S. pallidum Bieb. var. *pallidum*

Dörtyol, around Tekkoz, mixed forest, 900 m, 31.5.1991, Türkmen 583.

S. rubens L.

Erzin, top slopes of Keldağ, rocky areas, 2000 m, 28.6.1990, Med., Türkmen 584.

UMBELLIFERAE (APIACEAE)

Sanicula europaea L.

Dörtyol, east of Rabat Village, *F. orientalis* forest, 1350 m, 4.6.1990, Euro-Sib., Türkmen 927.

**Eryngium giganteum* Bieb.

Erzin, top slopes of Keldağ, stony areas, 1950 m, 3.7.1990, Türkmen 920.

E. falcatum Delar

Erzin, east of Başlamış Village, *P. brutia* forest, 800 m, 27.6.1990, Med., Türkmen 919.

E. creticum Lam.

Dörtyol, roadside, 70 m, 25.7.1991, Med., Türkmen 918.

Bunium ferulaceum Sm.

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Med., Türkmen 914.

Smyrniium connatum Boiss. & Kotschy

Dörtyol, around Çardak, steppe, 1400 m, 31.5.1991, Med., Türkmen 928.

Lecokia cretica (Lam.) DC.

Erzin, around Karaoluk, *F. orientalis* forest, 1300 m, 26.6.1989, Türkmen 926.

Bupleurum intermedium Poirlet

Between Dörtyol and Erzin, onion field, 150 m, 3.6.1990, Türkmen 915.

Ammi majus L.

Dörtyol, around BOTAŞ, roadside, 70 m, 3.7.1990, Med., Türkmen 913.

Cnidium silaifolium (Jacq.) Simonkai subsp. *orientalis* (Boiss.) Tutin

Dörtyol, top slopes of Miğir, stony areas, 2140 m, 28.8.1991, Türkmen 916.

Ferula elaeochytris Korovin

Erzin, top slopes of Keldağ, stony areas, 1800-2000 m, 28.6.1990, Med., Türkmen 921.

Ferulago cassia Boiss.

Erzin, east of Başlamış Village, *P. brutia* forest, 800 m, 27.6.1991, Med., Türkmen 922.

F. trachycarpa Boiss.

Erzin, top slopes of Keldağ, stony areas, 1850 m, 28.6.1990, Med., Türkmen 923.

Ainsworthia trachycarpa Boiss.

Dörtyol, around Tekkoz, mixed forest, 900 m, 31.5.1991, Med., Türkmen 912.

Laser trilobium (L.) Borkh.

Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Türkmen 924.

Laserpitium glaucum Post

Dörtyol, around Kırkelma, clearing of *P. nigra* forest, 1540 m, 3.7.1992, Med., Türkmen 925.

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

Erzin, east of Başlamış Village, *P. brutia* forest, 800 m, 27.6.1991, Türkmen 929.

T. arvensis (Huds.) Link subsp. *neglecta* (Sprengel) Thellung

Dörtyol, around Domuzdamı, roadside, 1250 m, 28.8.1991, Türkmen 930.

Turgeniopsus foeniculacea (Fenzl.) Boiss.

Dörtyol, around Akelma, *Q. cerris* forest, 1550 m, 31.5.1991, Türkmen 931.

Daucus guttatus Sm.

Erzin, around İçme, macchie, 450 m, 27.6.1990, Türkmen 917.

ARALIACEAE

Hedera helix L.

Erzin, around Karaoluk, *F. orientalis* forest, 1300 m, 26.6.1989, Türkmen 447.

CORNACEAE

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

Dörtyol, around Çökek, mixed forest, 1070 m, 26.6.1989, Euro-Sib., Türkmen 575.

C. mas L.

Dörtyol, around Çökek, mixed forest, 1070 m, 26.6.1989, Euro-Sib., Türkmen 574.

CAPRIFOLIACEAE

Sambucus ebulus L.

Erzin, around Kengerlidüz, mixed forest roadside, 1600 m, 11.9.1989, Euro-Sib., Türkmen 473.

S. nigra L.

Dörtyol, east of Rabat Village, mixed forest, 1000 m, 4.6.1992, Euro-Sib., Türkmen 474.

**Lonicera xylosteum* L.

Dörtyol, around Çökek, in ditch, 950 m, 8.5.1990, Türkmen 472.

VALERIANACEAE

Valeriana alliariifolia Adams

Dörtyol, around Kapulu, mixed forest, 1080 m, 29.5.1991, Türkmen 935.

DIPSACEAE

Cephalaria taurica Szabo

Erzin, east of Başlamış Village, *P. brutia* forest roadside, 400 m, 31.8.1990, Med., End., Türkmen 618.

Scabiosa columbaria L. subsp. *columbaria* var. *intermedia* (Post) Matws.

Dörtyol, around Tohtak, mixed forest, 1200 m, 28.8.1991, Türkmen 620.

S. columbaria L. subsp. *ochroleuca* (L.) Coulter var. *webbiana* (Don) Matws

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Türkmen 621.

- S. kurdica* Post
Dörtyol, around Tekkoz, mixed forest, 1050 m, 2.7.1992, Med., End., Türkmen 622.
- S. calocephala* Boiss.
Between Dörtyol and Erzin, degraded macchie, 100 m, 3.6.1990, Türkmen 619.
- COMPOSITAE (ASTERACEAE)**
- Xanthium spinosum* L.
Dörtyol, streamside, 30 m, 2.8.1990, Türkmen 569.
- X. strumarium* L. subsp. *cavilliesii* (Scho.) D.Love & P.Dansr.
Erzin, east of Başlamış Village, P. brutia forest roadside, 600 m, 31.8.1990, Türkmen 570.
- Pallenis spinosa* (L.) Cass.
Erzin, east of Başlamış Village, macchie, 500 m, Med., Türkmen 549.
- Inula salicina* L.
Dörtyol, around Tohtak, mixed forest, 1400 m, 28.8.1990, Euro-Sib., Türkmen 540.
- I. vulgaris* (Lam.) Trevisan
Erzin, east of Başlamış Village, P. brutia forest roadside, 800 m, 26.9.1990, Euro-Sib., Türkmen 541.
- **I. anatolica* Boiss.
Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, End., Türkmen 539.
- Pulicaria dysenterica* (L.) Bernh.
Dörtyol, streamside, 30 m, 27.9.1990, Türkmen 556.
- Helichrysum plicatum* DC. subsp. *plicatum*
Erzin, top slopes of Keldağ, stony areas, 1900 m, 28.6.1990, Türkmen 536.
- H. armenium* DC. subsp. *armenium*
Erzin, top slopes of Keldağ, stony areas, 2120 m, 28.6.1990, Türkmen 536.
- Galatella amani* (Post) Grierson
Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Med., End., Türkmen 532.
- Conyza canadensis* (L.) Cronquist
Dörtyol, garden border 70 m, 27.9.1990, Türkmen 526.
- C. bonariensis* (L.) Cronquist
Dörtyol, garden edege, 60 m, 27.9.1990, Türkmen 525.
- Bellis perennis* L.
Dörtyol, around Karagöz, steppe, 1660 m, 30.5.1990, Euro-Sib., Türkmen 508.
- Doronicum orientale* Hoffm.
Dörtyol, around Karagöz, mixed forest, 1700 m, 29.5.1991, Türkmen 528.
- Senecio vernalis* Waldst & Kit.
Dörtyol, around Çardak, roadside, 1400 m, 31.5.1991, Türkmen 562.
- Calendula arvensis* L.
Erzin, around İçme, field border, 320 m, 2.4.1990, Türkmen 509.
- Eupotarium cannabinum* L.
Dörtyol, around Tohtak, mixed forest, waste areas, 1200 m, 28.8.1991, Türkmen 531.
- Anthemis tinctoria* L. var. *tinctoria*
Dörtyol, around Çiğersiz çeşme, mixed forest, 1050 m, 29.8.1991, Türkmen 506.
- Leucocyclus formosus* Boiss. subsp. *amanicus* (Rech.fil.) Hub.-Mor. & Grierson
Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Med., End., Türkmen 547.
- Achillea grandiflora* Friv.
Erzin, east of Başlamış Village, mixed forest, 800 m, 30.5.1990, Türkmen 505.
- **A. coarctata* Poir.
Erzin, top slopes of Keldağ, rocky areas, 2100 m, 31.5.1990, Türkmen 504.
- Chrysanthemum segetum* L.
Dörtyol, garden border, 70 m, 7.5.1991, Med., Türkmen 522.
- Arctium minus* (Hill) Bernh. subsp. *pubens* (Babington) Arenes
Dörtyol, around Kocadüz, roadside, 800 m, 29.8.1991, Euro-Sib., Türkmen 507.
- **Onopordum acanthium* L.
Erzin, top slopes of Keldağ, stony areas, 1950 m, 28.6.1990, Türkmen 548.
- Silybum marianum* (L.) Gaertner
Erzin, around İçme, field border, 320 m, 2.4.1990, Türkmen 563.
- Cirsium leuconeurum* Boiss. & Hausskn.
Dörtyol, top slopes of Miğır, stony areas, 2120 m, 28.8.1991, Türkmen 524.
- Picnomon acarna* (L.) Cass.
Erzin, around Kengerlidüz, clearing of mixed forest, 1650 m, 11.9.1989, Med., Türkmen 550.
- Ptilostemon diacantha* (Lab.) Greuter
Dörtyol, streamside, 30 m, 2.8.1990, Med., Türkmen 555.
- Carduus nutans* L. subsp. *nutans*
Between Dörtyol and Erzin, roadside, 150 m, 3.6.1990, Türkmen 511.
- C. pycnocephalus* L. subsp. *albidus* (Bieb.) Kazmi
Erzin, around İçme, field border, 300 m, 2.4.1990, Türkmen 512.
- Tyrimnus leucographus* (L.) Cass.
Between Dörtyol and Erzin, in cavity, 150 m, Med., Türkmen 567.
- Centaurea lycopifolia* Boiss. & Kotschy
Erzin, east of Başlamış Village, macchie, 550 m, 30.5.1990, Med., End., Türkmen 518.
- C. cataonica* Boiss. & Hausskn.
Erzin, east of Başlamış Village, macchie, 500 m, 27.6.1991, End., Türkmen 517.
- C. babylonica* (L.) L.
Erzin, east of Başlamış Village, roadside, 600 m, 27.6.1991, Med., Türkmen 515.
- C. ptosimopappa* Hayek
Erzin, east of Başlamış Village, P. brutia forest, 800 m, 23.6.1989, Med., End., Türkmen 519.
- C. solstitialis* L. subsp. *solstitialis*
Between Dörtyol and Erzin, degraded macchie, 150 m, 3.7.1990, Türkmen 520.
- C. calcitrapa* L. subsp. *calcitrapa*
Dörtyol, streamside, 30 m, 2.8.1991, Med., Türkmen 516.
- **C. aegialophila* Wagenitz
Erzin, around İçme, field border, 300 m, 2.4.1990, Med., Türkmen 514.
- Cardopatum corymbosum* (L.) Pers.
Dörtyol, around BOTAŞ, roadside, 70 m, 3.7.1990, Med., Türkmen 510.

Carlina oligocephala Boiss. & Kotschy
subsp. *oligocephala*

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Türkmen 513.

Echinops ritro L.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Türkmen 529.

E. viscosus DC. subsp. *bithynicus* (Boiss.) Rech. fil.

Erzin, around İçme, roadside, 25.7.1991, Türkmen 530.

Cichorium pumilum Jack

Erzin, east of Başlamış Village, degraded macchie, 700 m, 25.7.1991, Med., Türkmen 523.

Scorzonera cana (C.A.Meyer) Hoffm. var. *cana*

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Cosm., Türkmen 559.

S. cana (C.A.Meyer) Hoffm. var. *radicosa* (Boiss.) Chamb.

Dörtyol, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Türkmen 560.

S. mollis Bieb. subsp. *szowitzii* (DC.) Chamb.

Dörtyol, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Ir.-Tur., Türkmen 561.

Hypochoeris radicata L. var. *heterocarpa* Moris

Dörtyol, around Çökek, stremside, 650 m, 8.5.1990, Euro-Sib., Türkmen 536.

Leontodon hispidus L. var. *hispidus*

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Türkmen 546.

Picris amalecitana (Boiss.) Eig

Erzin, east of Başlamış Village, roadside, 700 m, 25.7.1991, Med., Türkmen 551.

Helminthotheca echioides (L.) Holub.

Erzin, east of Kızlarçayı Village, Hillside, 700 m, 22.8.1990, Türkmen 534.

Urospermum picroides (L.) F.W.Schmidt.

Erzin, around İçme, roadside, 320 m, 28.3.1991, Med., Türkmen 568.

Hedypnois cretica (L.) Dum.-Cours.

Between Dörtyol and Erzin, roadside,

100 m, 3.6.1990, Med., Türkmen 533.

Rhagadiolus stellatus (L.) Gaertner var. *edulis* (Gaert.) DC.

Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Med., Türkmen 558.

Sonchus oleraceus L.

Dörtyol, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Türkmen 564.

**Reichardia intermedia* (Schultz Bip.) Hayek

Erzin, around İçme, degraded macchie, 300 m, 2.4.1990, Med., Türkmen 557.

Hieracium laevigatum Willd.

Dörtyol, around Ciğersiz çeşme, mixed forest, 1050 m, 29.8.1991, Euro-Sib., Türkmen 537.

Pilosella hoppeana (Schul.)C.H. & F.W.Schultz subsp. *troica*

Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Türkmen 554.

**P. hoppeana* (Schultes) C.H. & F.W.Schultz subsp. *isaurica* Hub.-Mor.

Dörtyol, around Tohtak, Q. cerris forest, 1400 m, 4.6.1990, Ir.-Tur., End., Türkmen 553.

P. echioides (Lumn.) C.H. & F.W. Schultz subsp. *procera* (Fries) Sell & West

Erzin, top slopes of Keldağ, stony areas, 2000 m, 3.7.1990, Türkmen 552.

Steptorhampus tuberosus (Jacq.) Grossh.

Between Dörtyol and Erzin, degraded macchie, 100 m, 3.6.1990, Türkmen 565.

Lactuca saligna L.

Erzin, east of Başlamış Village, P. brutia forest roadside, 650 m, 25.7.1991, Türkmen 542.

L. serriola L.

Erzin, east of Başlamış Village, P. brutia forest roadside, 600 m, 31.8.1990, Euro-Sib., Türkmen 543.

Lapsana communis L. subsp. *psidica* (Boiss. & Heldr.)Rech.fil.

Erzin, around Karaoluk, F. orientalis forest, 1300 m, 6.3.1989, Türkmen 545.3

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

Dörtyol, around Çardak, roadside, 1400 m, 31.5.1990, Türkmen 544.

Taraxacum sintensii Dahlst.

Dörtyol, around Karamezla, clearing of F. orientalis forest, 1750 m, 30.5.1991, Türkmen 566.

Condrilla juncea L. var. *juncea*

Dörtyol, roadside, 60 m, 29.11.1991, Türkmen 521.

Crepis reuterana Boiss. subsp. *reuterana*

Erzin, east of Başlamış Village, P. brutia forest, 750 m, 31.5.1990, Med., Türkmen 527.

CAMPANULACEAE

Campanula trachelium L. subsp. *athoa* (Boiss. & Heldr.) Hayek

Erzin, east of Başlamış Village, P. brutia forest roadside, 650 m, 25.7.1991, Euro-Sib., Türkmen 468.

C. rapunculus L. var. *rapunculus*

Between Dörtyol and Erzin, in cavity, 100 m, 3.6.1990, Euro-Sib., Türkmen 466.

C. retrorsa Labill.

Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 27.6.1991, Türkmen 467.

Asyneuma virgatum (Labill.) Bornm. subsp. *virgatum*

Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Türkmen 465.

Michauxia campanuloides L'Herit. ex Aiton

Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 23.6.1989, Med., Türkmen 470.

Legousia speculum-veneris (L.) Chaix

Dörtyol, around Çökek, P. brutia forest, 800 m, 8.5.1990, Med., Türkmen 469.

ERICACEAE

Erica manipuliflora Salisb.

Erzin, east of Başlamış Village, P. brutia forest, 800 m, 26.6.1990, Med., Türkmen 625.

Arbutus unedo L.

Erzin, east of Başlamış Village, macchie, 500 m, 10.10.1989, Türkmen 624.

A. andrachne L.

Erzin, east of Başlamış Village, macchie, 500 m, 10.10.1989, Türkmen 623.

PRIMULACEAE

Primula vulgaris Huds. subsp. *vulgaris*

Erzin, east of Başlamış Village, mixed forest, 800 m, 5.4.1990, Euro-Sib., Türkmen 820.

Cyclamen coum Miller var. *coum*

Erzin, east of Başlamış Village, Hillside, 650 m, 27.2.1989, Türkmen 819.

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

Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Türkmen 818.

STYRACACEAE

Styrax officinalis L.

Erzin, east of Başlamış Village, P. brutia forest, 750 m, 18.8.1989, Türkmen 906.

OLEACEAE

Jasminum fruticans L.

Erzin, around İçme, macchie, 450 m, 31.5.1990, Med., Türkmen 784.

Fraxinus ornus L. subsp. *cilicica* (Lingels.) Yalt.

Erzin, east of Başlamış Village, P. brutia forest, 550 m, 31.8.1990, Med., End., Türkmen 783.

Olea europaea L. var. *sylvestris* (Miller) Lehr.

Erzin, around İçme, degraded macchie, 250 m, 27.5.1991, Med., Türkmen 785.

Phillyrea latifolia L. subsp. *orientalis* Sebst.

Erzin, around İçme, macchie, 350 m, 31.8.1990, Med., Türkmen 786.

APOCYNACEAE

Nerium oleander L.

Erzin, around İçme, streamside, 350 m, 30.5.1990, Med., Türkmen 443.

Vinca major L. subsp. *major*

Dörtyol, garden border, 100 m, 8.5.1990, Med., Türkmen 444.

ASCLEPIADACEAE

Vincetoxicum tmoleum Boiss.

Dörtyol, top slopes of Miğir, stony areas, 2100 m, 28.9.1991, Ir.-Tur., Türkmen 1043.

GENTIANACEAE

***Blackstonia perfoliata** (L.) Hudson

subsp. *serotina* (W.Koch ex Reichb.) Vollmann

Between Dörtyol and Erzin, macchie, 150 m, 3.6.1990, Türkmen 642.

Centaurium erythraea Rafin. subsp. *turcicum* (Velen) Melderis

Erzin, east of Başlamış Village, macchie, 500 m, 27.6.1990, Türkmen 643.

CONVOLVULACEAE

Calystegia silvatica (Kit.) Griseb.

Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Türkmen 571.

Convolvulus dorycnium L. subsp. *oxycephalus* (Boiss.) Rech.fil

Dörtyol, around BOTAŞ, roadside, 70 m, 3.7.1992, Med., Türkmen 573.

C. arvensis L.

Dörtyol, around Tohtak, roadside, 1450 m, 29.5.1991, Cosm., Türkmen 572.

CUSCUTACEAE

***Cuscuta campestris** Yuncker

Dörtyol, around BOTAŞ, roadside, on Alhagi mannifera, 70 m, 3.7.1990, Cosm., Türkmen 616.

C. brevistyla A.Braun

Erzin, top slopes of Keldağ, on Marubium globosum, 2000 m, 28.6.1990, Türkmen 615.

BORAGINACEAE

Heliotropium europaeum L.

Between Dörtyol and Erzin, onion field, 150 m, 3.6.1992, Med., Türkmen 456.

Myosotis alpestris F.W.Schmidt.

Dörtyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Türkmen 459.

M. lithospermifolia (Willd.) Hornem.

Dörtyol, around Ufacık, Q. cerris forest, 1530 m, 31.5.1990, Euro-Sib., Türkmen 454.

***Paracaryum lithospermifolium** (Lam.) Grande subsp. *cariense* (Boiss.) R.Mill var. *cariense*

Dörtyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Med., Türkmen 462.

Cynoglossum creticum L.

Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Türkmen 453.

C. montanum L.

Dörtyol, around Karamezla, clearing of F. orientalis forest, 1750 m, 30.5.1991, Türkmen 455.

Lithospermum purpurocaeruleum L.

Dörtyol, around Çökek, P. brutia forest, 750 m, 8.5.1990, Euro-Sib., Türkmen 458.

Buglossoides arvensis (L.) Johnston

Erzin, around İçme, field border, 300 m, 28.3.1991, Türkmen 452.

Lithodora hispidula (Sm.) Griseb. subsp. *versicolor* Meikle

Erzin, around İçme, macchie, 150 m, 27.6.1990, Med., Türkmen 457.

Onosma frutescens Lam

Dörtyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Med., Türkmen 460.

O. tauricum Patlas ex Willd. var. *tauricum*

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Türkmen 461.

Symphytum brachycalix Boiss.

Dörtyol, around Karamezla, F. orientalis forest, 1750 m, 30.5.1991, Med., Türkmen 463.

Brunnera orientalis (Scheyk) Johnston

Dörtyol, around Akelma, Q. cerris forest, 1530 m, 31.5.1990, Euro-Sib., Türkmen 451.

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

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Türkmen 450.

A. strigosa Labill.

Dörtyol, garden border, 30 m, 2.8.1990, Türkmen 449.

SOLANACEAE

Solanum nigrum L. subsp. *nigrum*

Dörtyol, streamside, 30 m, 2.8.1990, Cosm., Türkmen 904.

S. dulcamara L.

Dörtyol, around Ciğersiz çeşme, Hillside, 1050 m, 29.8.1991, Euro-Sib., Türkmen 903.

S. elatum Moench

Erzin, east of Başlamış Village, P. brutia forest roadside, 550 m, 30.5.1990, Türkmen 902.

- Physalis alkekengi* L.
Erzin, east of Kızlarçayı Village, Hillside, 650 m, 22.8.1991, Türkmen 901.
- Atropa belladonna* L.
Erzin, north slopes of Keldağ, F. orientalis forest roadside, 1800 m, 27.8.1991, Euro-Sib., Türkmen 899.
- Datura innoxia* Miller
Dörttyol, streamside, 30 m, 27.9.1990, Türkmen 900.
- SCROPHULARIACEAE**
- Verbascum linearilobium* (Boiss.) Hub.-Mor.
Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 25.7.1991, Med., End., Türkmen 891.
- V. cedreti* Boiss.
Dörttyol, around Akelma, Q. cerris forest, 1550 m, 31.5.1990, Med., Türkmen 888.
- V. sinuatum* L. var. *adenosephalum* Murb.
Dörttyol, pasture, 70 m, 17.8.1990, Med., Türkmen 892.
- V. caesareum* Boiss.
Erzin, top slopes of Keldağ, stony areas, 1850 m, 27.8.1991, Med., End., Türkmen 887.
- V. amanum* Boiss.
Dörttyol, top slopes of Miğir, stony areas, 2100 m, 28.9.1990, Med., Türkmen 886.
- V. galileum* Boiss.
Erzin, east of Başlamış Village, P. brutia forest roadside, 550 m, 27.12.1990, Med., Türkmen 890.
- V. cheiranthifolium* Boiss. var. *asperilum* (Boiss.) Murb.
Dörttyol, around Çardak, steppe, 1400 m, 31.5.1991, End., Türkmen 889.
- Scrophularia scopolii* (Hoppe ex) Pers. var. *scopolii*
Dörttyol, around Mışmış, clearing of F. orientalis forest, 1400 m, 4.6.1990, Türkmen 884.
- S. xanthoglossa* Boiss.
S. Erzin, top slopes of Keldağ, stony areas, 2000 m, 28.6.1990, Ir.-Tur., Türkmen 885.
- Anarrhinum orientale* Benth
Erzin, around Kengerlidüz, mixed forest, 1700 m, 28.6.1990, Ir.-Tur., Türkmen 878.
- **Misopates orontium* (L.) Rafin.
Between Dörttyol and Erzin, degraded macchie, 150 m, 3.6.1990, Türkmen 883.
- Linaria chalepensis* (L.) Miller var. *chalepensis*
Dörttyol, roadside, 70 m, 7.5.1990, Med., Türkmen 882.
- Kickxia commutata* (Bernh. ex Reichb.) Frit. subsp. *graeca* (Bor & Chamb.) R.Fernand.
Dörttyol, streamside, 30 m, 2.8.1990, Türkmen 880.
- Veronica arvensis* L.
Dörttyol, around Çökek, streamside, 650 m, 8.5.1990, Euro-Sib., Türkmen 893.
- V. persica* Poir
Erzin, garden border, 250 m, 2.4.1990, Türkmen 897.
- V. cymbalaria* Bodard
Erzin, garden border, 250 m, 2.4.1990, Med., Türkmen 894.
- V. leiocarpa* Boiss.
Dörttyol, around Çökek, P. brutia forest, 400 m, 30.5.1991, Med., Türkmen 895.
- V. orientalis* Boiss. Miller subsp. *nimordi* (Reichter ex Stapf.) M.A.Fischer
Dörttyol, around Karagöz, steppe, 1660 m, 31.3.1990, End., Türkmen 896.
- Wulfenia orientalis* Boiss.
Dörttyol, around Tekkoz, mixed forest roadside, 1000 m, 4.6.1990, Med., Türkmen 898.
- Bellardia trixago* (L.) All.
Between Dörttyol and Erzin, degraded macchie, 150 m, 3.6.1990, Türkmen 879.
- Lesquereuxia syriaca* Boiss. & Reuter
Erzin, east of Başlamış Village, P. brutia forest, 750 m, 23.6.1989, Med., Türkmen 881.
- OROBANCHACEAE**
- Phelypaea coccinea* (Bieb.) Poir
Dörttyol, around Kirmenkaya, Q. cerris forest, 1710 m, 31.5.1990, Ir.-Tur., Türkmen 791.
- Orobanche crenata* Forsskal
Erzin, around Kengerlidüz, mixed forest, 1750 m, 28.6.1990, Türkmen 790.
- O. caryophyllaceae* Smith
Erzin, around İçme, P. brutia forest, 300 m, 2.4.1990, Türkmen 789.
- O. anatolica* Boiss. & Reuter
Dörttyol, around Kırkelma, F. orientalis forest, 1500 m, 30.5.1991, Türkmen 788.
- VERBENACEAE**
- **Phyla nodiflora* (L.) Greene
Dörttyol, streamside, 30 m, 2.8.1990, Türkmen 936.
- Verbena officinalis* L.
Dörttyol, streamside, 20 m, 2.8.1990, Türkmen 937.
- Vitex agnus-castus* L.
Erzin, around İçme, streamside, 350 m, 2.8.1990, Med., Türkmen 938.
- LABIATAE (LAMIACEAE)**
- Ajuga orientalis* L.
Dörttyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Türkmen 661.
- A. chamaepitys* (L.) Schreber subsp. *chia* (Schreber) Arcangeli var. *ciliata* Briq.
Dörttyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Türkmen 660.
- Teucrium polium* L. var. *vulgare* Benth
Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Türkmen 692.
- **Scutulleria rubicunda* Hormem subsp. *brevibracteata* (Stapf.) Edmond
Between Dörttyol and Erzin, in ditch, 100 m, 3.6.1990, Med., End., Türkmen 685.
- S. glaphyrostachys* Rech. fil.
Dörttyol, around Kırkelma, rocky areas, 1540 m, 3.7.1990, Med., End., Türkmen 684.
- S. salviifolia* Benth
Erzin, top slopes of Keldağ, rocky areas, 2100 m, 3.7.1990, End., Türkmen 686.
- Phlomis viscosa* Poir

Erzin, south slopes of Keldağ, stony areas, 1800 m, 27.8.1991, Med., Türkmen 677.

P. longifolia Boiss. & Bal. var. *bailanica* (Vierh.) Hub.-Mor.

Erzin, around Tekkoz, mixed forest, 900 m, 31.5.1991, Med., End., Türkmen 676.

Lamium garganicum L. subsp. *nepetifolium* (Boiss.) R. Mill.

Dörtiyol, around Kapulu, roadside, 900 m, 29.5.1991, Med., End., Türkmen 666.

L. garganicum L. subsp. *reniforme* (Montbret & Aucher ex Benth) R. Mill.

Dörtiyol, top slopes of Miğir, stony areas, 2100 m, 4.6.1992, Türkmen 667.

L. macrodon Boiss. & Huet

Dörtiyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1992, Ir.-Tur., Türkmen 668.

L. maculatum L. var. *maculatum*

Dörtiyol, around Kırıknelma, F. *orientalis* forest, 1750 m, 30.5.1991, Euro-Sib., Türkmen 669.

Ballota nigra L. subsp. *nigra* (Fiori & Beg.) Petzák

Dörtiyol, streamside, 40 m, 29.11.1990, Med., Türkmen 662.

Marrubium globosum Montbret et Aucher ex Benth subsp. *globosum*

Erzin, top slopes of Keldağ, stony areas, 2100 m, 11.9.1989, Ir.-Tur., End., Türkmen 670.

Sideritis libanotica Labill. subsp. *libanotica*

Dörtiyol, top slopes of Miğir, stony areas, 2130 m, 28.8.1991, Med., Türkmen 687.

S. perfoliata L. var. *condensata* Boiss.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 26.9.1990, Türkmen 688.

Stachys pinetorum Boiss. & Bal.

Erzin, east of Başlamış Village, P. brutia forest roadside, 650 m, 27.6.1991, Med., Türkmen 691.

S. annua (L.) L. subsp. *ammophila* (Boiss. & Bl.) Samuel.

Erzin, around İçme, field border, 300 m, 28.3.1991, Med., Türkmen 689.

S. diversifolia Boiss.

Erzin, east of Başlamış Village, P. brutia forest, 830 m, 26.9.1990, Med., Türkmen 690.

**Melissa officinalis* L. subsp. *officinalis*

Dörtiyol, around Domuzdamı, roadside, 1250 m, 28.8.1991, Türkmen 671.

Nepeta cilicica Boiss.

Erzin, top slopes of Keldağ, rocky areas, 2000 m, 3.7.1990, Med., Türkmen 673.

Prunella vulgaris L.

Dörtiyol, around Bülke, P. brutia forest, 660 m, 29.5.1991, Euro-Sib., Türkmen 679.

P. orientalis Bornm.

Dörtiyol, east of Kuyuluk Village, P. brutia forest, 450 m, 2.7.1990, Türkmen 678.

Origanum syriacum L. var. *bevanii* (Holmes) Leswaart

Erzin, east of Başlamış Village, macchie, 400 m, 31.8.1990, Med., Türkmen 675.

O. laevigatum Boiss. var. *laxum* Post

Erzin, around İçme, P. brutia forest, 750 m, 14.11.1989, Med., Türkmen 674.

Satureja amani P.H.Davis

Dörtiyol, around Kırıknelma, rocky areas, 1650 m, 20.5.1991, Med., End., Türkmen 683.

Calamintha grandiflora (L.) Moench

Erzin, north slopes of Keldağ, F. *orientalis* forest, 1850 m, 27.8.1991, Euro-Sib., Türkmen 663.

C. nepeta (L.) Savi subsp. *nepeta*

Erzin, east of Başlamış Village, P. brutia forest, 850 m, 2.8.1990, Med., Türkmen 664.

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

Dörtiyol, around Tohtak, mixed forest, 1200 m, 28.8.1991, Türkmen 665.

Thymus leuchotrichus Hal. var. *aus-troanatolicus* Jales

Erzin, top slopes of Keldağ, rocky areas, 2000 m, 28.6.1990, Türkmen 695.

T. kotschyanus Boiss. & Hohen var. *glabrescens* Boiss.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Ir.-Tur., Türkmen 694.

T. sipyleus Boiss. subsp. *sipyleus* var. *sipyleus*

Dörtiyol, around Karagöz, steppe, 1660 m, 31.5.1990, End., Türkmen 696.

Thymbra spicata L. var. *spicata*

Between Dörtiyol and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 693.

Mentha pulegium L.

Dörtiyol, around Pekmezci, rocky areas, 940 m, 3.7.1990, Türkmen 672.

Ziziphora capitata L. subsp. *orientalis* Samuel. ex Rech.

Dörtiyol, around Karagöz, steppe, 1660 m, 31.5.1990, Ir.-Tur., Türkmen 697.

Salvia tomentosa Miller

Erzin, east of Başlamış Village, P. brutia forest, 800 m, 30.5.1990, Med., Türkmen 681.

S. viridis L.

Between Dörtiyol and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 682.

S. glutinosa L.

Dörtiyol, around Kırıknelma, clearing of F. *orientalis* forest, 1700 m, 28.8.1991, Euro-Sib., Türkmen 680.

PLUMBAGINACEAE

Acanthalimon libanoticum Boiss.

Dörtiyol, top slopes of Miğir, stony areas, 2160 m, 28.9.1990, Med., Türkmen 805.

**A. acerosum* (Willd.) Boiss. var. *brachystachyum* Boiss.

Erzin, top slopes of Keldağ, stony areas, 2100 m, 27.8.1991, Ir.-Tur., End., Türkmen 804.

PLANTAGINACEAE

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

Dörtiyol, around Çiğersiz çeşme, Hillside, 1050 m, 29.8.1991, Türkmen 801.

**P. holosteam* Scop.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Med., Türkmen 799.

P. lanceolata L.

Erzin, around İçme, macchie, 500 m, 30.5.1990, Türkmen 800.

- **P. scabra* Moench
Dörtiyol, garden border, 40 m, 2.8.1990, Türkmen 802.
- THYMELAECEAE**
Daphne sericea Vahl
Erzin, around İçme, macchie, 350 m, 5.4.1990, Med., Türkmen 909.
D. oleoides Schreb. subsp. *oleoides*
Dörtiyol, top slopes of Miğir, stony areas, 2100 m, 28.9.1990, Türkmen 908.
- LAURACEAE**
Laurus nobilis L.
Dörtiyol, around Sarısu, Hillside, 1000 m, 28.9.1990, Med., Türkmen 698.
- SANTALACEAE**
Thesium bergeri Zucc.
Erzin, east of Başlamış Village, macchie, 450 m, 27.6.1990, Med., Türkmen 877.
Osyris alba L. var. *serotinia* Griseb.
Erzin, east of Başlamış Village, macchie, 31.5.1990, Med., Türkmen 876.
- LORANTHACEAE**
Loranthus europaeus Jacq.
Dörtiyol, around Tohtak, on *Q. cerris*, 1460 m, 3.7.1990, Türkmen 777.
- RAFLESIIACEAE**
Cytinus hypocistis L. subsp. *kermesinus* (Guss.) Waltds.
Dörtiyol, around Tekkoz, mixed forest, 1050 m, 31.5.1991, Med., Türkmen 822.
- EUPHORBIACEAE**
Mercurialis annua L.
Erzin, garden border, 250 m, 2.4.1990, Türkmen 633.
M. ovata Sternb. & Hoppe
Dörtiyol, around Kırkelma, *F. orientalis* forest, 1500 m, 30.5.1991, Euro-Sib., Türkmen 634.
Euphorbia supina Rafin
Between Dörtiyol and Erzin, roadside, 100 m, 3.6.1990, Türkmen 632.
E. rhytidisperma Boiss. & Bal.
Dörtiyol, around İçkoz, *P. nigra* forest, 1550 m, 29.5.1991, Med., End., Türkmen 631.
E. apios L. var. *lamprocarpa* Boiss.
- Erzin, east of Başlamış Village, *P. brutia* forest, 830 m, 5.4.1990, Med., Türkmen 626.
E. helioscopia L.
Erzin, around İçme, field border, 250 m, 27.2.1991, Türkmen 628.
E. peplus L. var. *peplus*
Dörtiyol, around Çökek, streamside, 650 m, 8.5.1990, Türkmen 630.
E. falcata L. subsp. *falcata* var. *falcata*
Erzin, east of Başlamış Village, *P. brutia* forest roadside, 700 m, 25.7.1991, Türkmen 627.
E. macrostegia Boiss.
Erzin, east of Başlamış Village, *P. brutia* forest, 800 m, 25.7.1991, Türkmen 629.
- BUXACEAE**
Buxus sempervirens L.
Dörtiyol, around Tekkoz, mixed forest, Hillside, 1080 m, 29.5.1991, Euro-Sib., Türkmen 464.
- URTICACEAE**
Urtica urens L.
Erzin, garden border, 250 m, 2.4.1990, Türkmen 934.
U. dioica L.
Dörtiyol, around Karagöz, garden border, 1660 m, 31.5.1990, Euro-Sib., Türkmen 933.
Parietaria judaica L.
Erzin, garden border, 250 m, 2.4.1990, Türkmen 932.
- MORACEAE**
Ficus carica L. subsp. *carica*
Erzin, east of Başlamış Village, Hillside, 650 m, 25.7.1991, Türkmen 781.
- ULMACEAE**
Ulmus glabra Hudson
Dörtiyol, around Tekkoz, mixed forest, 850 m, 2.5.1990, Euro-Sib., Türkmen 911.
- JUGLANDACEAE**
Juglans regia Miller
Erzin, around Kengerlidüz, mixed forest, 1650 m, 2.5.1990, Türkmen 659.
- PLATANACEAE**
Platanus orientalis L.
Erzin, around İçme, streamside, 350 m, 5.4.1990, Türkmen 803.
- FAGACEAE**
Fagus orientalis Lipsky.
Erzin, around Kengerlidüz, mixed forest, 1700 m, 11.9.1989, Euro-Sib., Türkmen 636.
**Castanea sativa* Miller
Dörtiyol, around Tekkoz, mixed forest, 850 m, 2.7.1990, Euro-Sib., Türkmen 635 (cultivated).
Quercus petraea (Mat.) Liebl. subsp. *pinnatifida* (C. Koch) Menitsby
Erzin, around Kengerlidüz, mixed forest, 1650 m, 11.9.1989, End., Türkmen 641.
Q. infectoria Oliver subsp. *boissieri* (Reuter) O. Schwarz
Erzin, east of Başlamış Village, *P. brutia* forest, 500 m, 9.11.1989, Türkmen 639.
Q. cerris L. var. *cerris*
Erzin, around Kengerlidüz, mixed forest, 1650 m, 11.9.1989, Med., Türkmen 637.
Q. libani Oliver
Dörtiyol, around Tohtak, *Q. cerris* forest, 1350 m, 9.11.1989, Ir.-Tur., Türkmen 640.
Q. coccifera L.
Erzin, east of Başlamış Village, macchie, 500 m, 27.6.1990, Med., Türkmen 638.
- CORYLACEAE**
Carpinus orientalis Miller
Erzin, east of Başlamış Village, mixed forest, 650 m, 2.7.1990, Türkmen 576.
Ostrya carpinifolia Scop.
Dörtiyol, around Tekkoz, mixed forest, 1000 m, 28.3.1990, Med., Türkmen 578.
Corylus avellana L. var. *avellana*
Dörtiyol, around Findikderesi, streamside, 1080 m, 29.5.1991, Euro-Sib., Türkmen 577.
- BETULACEAE**
Alnus glutinosa (L.) Gaertn. subsp. *barbata* (C.A.Meyer) Yalt.
Dörtiyol, near Kuyuluk Village, streamside, 500 m, 31.5.1991, Euro-Sib., türkmen 448.

SALICACEAE

Salix alba L. subsp. *micans* (Anderson) Rech. fil.

Dörtyol, around Karagöz, wetland, 1480 m, 3.7.1990, Euro-Sib., Türkmen 874.

S. pedicellata Desf. subsp. *pedicellata*

Dörtyol, east of Kuyuluk Village, Hillside, 550 m, 31.5.1991, Med., Türkmen 875.

Populus tremula L.

Erzin, around Kengerlidüz, mixed forest, 1650 m, 30.5.1990, Euro-Sib., Türkmen 873.

RUBIACEAE

Putoria calabrica (L. fil.) DC.

Erzin, east of Başlamış Village, P. brutia forest, Hillside, 600 m, 30.8.1991, Med., Türkmen 869.

Sherardia arvensis L.

Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 872.

Crucianella latifolia L.

Between Dörtyol and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 861.

**Asperula stricta* Boiss. subsp. *monticola* Ehrend.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 3.7.1990, Med., End., Türkmen 859.

A. stricta Boiss. subsp. *stricta*

Erzin, east of Başlamış Village, P. brutia forest, 650 m, 3.7.1990, Med., Türkmen 860.

A. cymulosa (Post) Post

Erzin, east of Başlamış Village, P. brutia forest, Med., End., Türkmen 858.

Galium odoratum (L.) Scop.

Dörtyol, around Mışmış F. orientalis forest, 1400 m, 4.6.1990, Euro-Sib., Türkmen 866.

G. verum L. subsp. *verum*

Between Dörtyol and Erzin, roadside, 150 m, 3.6.1990, Euro-Sib., Türkmen 868.

G. album Miller subsp. *amani* Ehrend. et Schönbr.-Tem.

Dörtyol, around Akelma, Q. cerris forest, 1530 m, 31.5.1990, Türkmen 863.

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

Erzin, top slopes of Keldağ, stony areas, 2000 m, 28.6.1990, Ir.-Tur., Türkmen 865.

G. aparine L.

Dörtyol, around Çardak, roadside, 1400 m, 31.5.1990, Türkmen 864.

**G. tenuissimum* Bieb. subsp. *tenuissimum*

Between Dörtyol and Erzin, field border, 150 m, 3.6.1990, Türkmen 867.

**Cruciata laevipes* Opiz

Between Dörtyol and Erzin, degraded macchie, 150 m, 3.6.1990, Euro-Sib., Türkmen 862.

Rubia rotundifolia Banks & Sol.

Dörtyol, east of Kuyuluk Village, P. brutia forest, 450 m, 2.7.1990, Med., Türkmen 870.

R. tenuifolia d.Urv. subsp. *brachypoda* (Boiss.) Ehrend.

Erzin, around İçme, macchie, 450 m, 17.4.1990, Med., Türkmen 871.

MONOCOTYLEDONES

ARACEAE

Arum dioscoridis Sm. var. *liepoldtii* (Scott) Engler

Dörtyol, garden border, 90 m, 5.4.1990, Med., Türkmen 446.

LILIACEAE

Smilax excelsa L.

Dörtyol, around Kapulu, mixed forest, 1070 m, 26.6.1989, Euro-Sib., Türkmen 1028.

S. aspera L.

Erzin, east of Başlamış Village, P. brutia forest, 750 m, 26.6.1990, Türkmen 1027.

Ruscus aculeatus L. var. *angustifolius* Boiss.

Dörtyol, around Çökek, P. brutia forest, 750 m, 26.6.1989, Türkmen 1024.

Danae racemosa (L.) Moench

Dörtyol, around Tekkoz, mixed forest, Hillside, 1000 m, 31.5.1991, Türkmen 1011.

Asparagus acutifolius L.

Erzin, around İçme, macchie, 500 m, 31.8.1990, Med., Türkmen 1006.

Polygonatum orientale Desf.

Dörtyol, around Mışmış F. orientalis forest, 1400 m, 4.6.1990, Euro-Sib., Türkmen 1023

P. multiflorum All.

Dörtyol, around Kırkelma, F.orientalis forest, 1500 m, 30.5.1991, Türkmen 1022.

Asphodelus aestivus Brot.

Between Dörtyol and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 1009.

Eremurus spectabilis Bieb.

Dörtyol, top slopes of Mığır, stony areas, 2100 m, 4.6.1990, Ir.-Tur., Türkmen 1012.

Asphodelina globifera J.Gay ex Baker

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Med., Türkmen 1008.

A. damascena (Boiss.) Baker subsp. *damascena*

Dörtyol, top slopes of Mığır, stony areas, 1950 m, 4.6.1992, Ir.-Tur., Türkmen 1007.

**Allium sipyleum* Boiss.

Erzin, top slopes of Keldağ, stony areas, 2000 m, 27.8.1991, Med., Türkmen 1005.

A. ampeloprasum L.

Dörtyol, field border, 150 m, 3.6.1990, Med., Türkmen 1001.

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

Dörtyol, around Karagöz, steppe, 1480 m, 3.7.1990, Med., Türkmen 1004.

A. calyptratum Boiss.

Dörtyol, top slopes of Mığır, stony areas, 2000 m, 4.6.1990, Med., Türkmen 1002.

A. lycaonicum Siehe ex Hayek

Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 1003.

Urginea maritima L.

Dörtyol, streamside, 30 m, 27.9.1990, Med., Türkmen 1029.

Scilla melaine Speta

Erzin, east of Başlamış Village, mixed

forest, 650 m, 28.3.1991, Med., Türkmen 1026.

S. autumnalis L.

Erzin, around İçme, macchie, 400 m, 26.9.1991, Türkmen 1025.

Ornithogalum ulophyllum Hand.-Mazz.

Dörtyol, around Karagöz, steppe, 1660 m, 31.5.1990, Türkmen 1021.

O. oligophyllum E.D. Clarke

Erzin, around Kengerlidüz, clearing of *P. nigra* forest, 1700 m, 23.5.1992, Türkmen 1020.

Muscari comosum (L.) Mill.

Erzin, around Kengerlidüz, mixed forest, 1700 m, 28.6.1990, Türkmen 1017.

M. tenuiflorum Tousch.

Dörtyol, around Çökek, *P. brutia* forest, 800 m, 8.5.1990, Türkmen 1019.

M. neglectum Guss.

Dörtyol, top slopes of Miğir, stony areas, 1950 m, 3.6.1990, Türkmen 1018.

Fritillaria acmopetale Boiss. subsp. *acmopetale*

Dörtyol, around Gücük, clearing of *F. orientalis* forest, 1400-1700 m, 4.6.1990, Med., Türkmen 1013.

F. hermonis Fenzl subsp. *amana* Rix

Dörtyol, top slopes of Miğir, stony areas, 2000 m, 4.6.1990, Med., Türkmen 1014.

F. pinardii Boiss.

Erzin, around Kengerlidüz, *P. nigra* forest, 1700 m, 23.5.1990, Ir.-Tur., Türkmen 1015.

Gagea fibrosa (Desf.) Schultes & Schultes. fil.

Erzin, around İçme, macchie, 300 m, 2.4.1992, Türkmen 1016.

Colchicum trodii Kotschy

Dörtyol, around Karamezla, clearing of *F. orientalis* forest, 1750 m, 28.9.1990, Med., Türkmen 1010.

IRIDACEAE

Iris unguicularis Poirlet

Erzin, east of Başlamış Village, *P. brutia* forest, 750 m, 5.4.1990, Med., Türkmen 998.

Gynandrisis sisyrrinchium (L.) Parl.

Erzin, around İçme, macchie, 400 m, 5.4.1990, Türkmen 997.

Crocus kotschyanus C.Koch subsp. *kotschyanus*

Dörtyol, top slopes of Miğir, stony areas, 1920 m, 28.9.1990, Türkmen 994.

Gladiolus italicus Miller

Erzin, east of Başlamış Village, *P. brutia* forest, 750 m, 30.5.1990, Türkmen 996.

G. anatolicus (Boiss.) Stapf

Dörtyol, around Kocadüz, mixed forest, 1050 m, 2.7.1990, Med., End., Türkmen 995.

ORCHIDACEAE

Cephalanthera kurdica Bornm. ex Kranzlin

Dörtyol, around Tekkoz, mixed forest, 1000 m, 31.5.1991, Ir.-Tur., Türkmen 1032.

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

Dörtyol, around Bülke, *P. brutia* forest, 1000 m, 31.5.1991, Türkmen 1034.

C. longifolia (L.) Fritsch

Dörtyol, around Mişmiş *F. orientalis* forest, 1350 m, 4.6.1990, Euro-Sib., Türkmen 1033.

C. damasonium (Miller) Druce

Dörtyol, around Kırkelma, *F. orientalis* forest, 1500 m, 30.5.1991, Euro-Sib., Türkmen 1031.

Epipactis helleborine (L.) Crantz

Dörtyol, around Kocadüz, mixed forest, 1050 m, 2.7.1990, Türkmen 1037.

Limodorum abortivum (L.) Swartz

Dörtyol, around Akelma, *F. orientalis* forest, 1520 m, 31.5.1991, Türkmen 1038.

Platanthera bifolia (L.) L.C.M. Richard

Dörtyol, around İçkoz, *P. nigra* forest, 1550 m, 29.5.1991, Euro-Sib., Türkmen 1041.

Anacamptis pyramidalis (L.) L.C.M. Richard

Dörtyol, around Kocadüz, mixed forest, 1050 m, 2.7.1992, Türkmen 1030.

Orchis morio L. subsp. *syriaca* Camus & al.

Erzin, around İçme, macchie, 300 m, 2.4.1992, Med., Türkmen 1040.

O. mascula (L.) subsp. *pinetorum* (Boiss. & Kotschy) G.Camus

Dörtyol, around Gücük, *F. orientalis* forest, 1800 m, 4.6.1990, Med., Türkmen 1039.

Dactylorhiza saccifera (Brong.) Soo'

Dörtyol, around Tekkoz, mixed forest, 850 m, 2.7.1990, Med., Türkmen 1036.

D. osmanica (L.) Soo' var. *osmanica*

Dörtyol, around Atkayası, mixed forest, 880 m, 29.5.1991, Ir.-Tur., End., Türkmen 1035.

DIOSCOREACEAE

Tamus communis L. subsp. *communis*

Dörtyol, around Tohtak, mixed forest, 1070 m, 26.6.1989, Türkmen 617.

TYPHACEAE

***Typha angustifolia** L.

Dörtyol, around BOTAŞ, irrigation canal, 70 m, 3.7.1992, Türkmen 1042.

JUNCACEAE

Juncus inflexus L.

Dörtyol, around Tohtak, mixed forest, 1200 m, 28.8.1991, Türkmen 999.

Luzula forsteri (Sm.) DC.

Dörtyol, around Akelma, *Q. cerris* forest, 1530 m, 31.5.990, Euro-Sib., Türkmen 1000.

CYPERACEAE

***Cyperus rotundus** L.

Dörtyol, around BOTAŞ, field border, 70 m, 3.7.1990, Türkmen 948.

Bolboschoenus maritimus (L.) Palla var. *cymentosus*

Dörtyol, salty places near sea, 20 m, 27.9.1990, Türkmen 943.

Scirpoides holoschoenus (L.) Sojak

Erzin, east of Başlamış Village, *P. brutia* forest roadside, 650 m, 25.7.1991, Türkmen 949.

Carex divulsa Stokes subsp. *divulsa*

Dörtyol, around Çökek, streamside, 650 m, 8.5.1990, Euro-Sib., Türkmen 945.

C. pendula Hudson

Dörtyol, around Kapulu, roadside, 1080 m, 29.5.1991, Euro-Sib., Türkmen 947.

C. flacca Schreber subsp. *serrulata* (Biv.) Greuter

Erzin, east of Başlamış Village, macchie, 500 m, 5.4.1990, Med., Türkmen 946.

C. distans L.

Erzin, east of Başlamış Village, P. brutia forest roadside, 650 m, 31.10.1991, Euro-Sib., Türkmen 944.

GRAMINEAE (POACEAE)

Brachypodium pinnatum (L.) P. Beauv.

Erzin, east of Başlamış Village, P. brutia forest, 800 m, 30.5.1990, Türkmen 955.

Aegilops speltoides Tausch var. *speltoides*

Between Dörtüol and Erzin, roadside, 150 m, 3.6.1990, Türkmen 951.

**Ae. neglecta* Req. ex Bertol.

Between Dörtüol and Erzin, degraded macchie, 150 m, 3.6.1990, Med., Türkmen 950.

Hordeum bulbosum L.

Dörtüol, top slopes of Miğir, stony areas, 1950 m, 31.5.1990, Türkmen 974.

Bromus intermedius Guss.

Erzin, around İçme, macchie, 500 m, 30.5.1990, Türkmen 957.

B. squarrosus L.

Dörtüol, around Tekkoz, mixed forest, 1000 m, 26.6.1989, Türkmen 959.

B. scoparius L.

Dörtüol, around Akelma, Q. cerris forest, 1530 m, 31.5.1990, Türkmen 958.

B. tectorum L.

Dörtüol, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Türkmen 961.

B. sterilis L.

Dörtüol, around Tekkoz, mixed forest roadside, 900 m, 31.5.1991, Türkmen 960.

Agrostis stolonifera L.

Dörtüol, around Akelma, Q. cerris forest, 1530 m, 31.5.1990, Euro-Sib., Türkmen 952.

Alepocurus gerardii Vill. var. *gerardii*

Erzin, top slopes of Keldağ, stony ar-

reas, 2100 m, 27.8.1991, Med., Türkmen 953.

Phleum montanum C.Koch subsp. *montanum*

Erzin, top slopes of Keldağ, stony areas, 2100 m, 28.6.1990, Türkmen 981.

Lolium rigidum Gaudin var. *rigidum*

Dörtüol, around Tekkoz, mixed forest roadside, 31.5.1991, Türkmen 976.

**Vulpia fasciculata* (Forsskal) Fritsch

Dörtüol, around Tekkoz, mixed forest, 900 m, 31.5.1991, Med., Türkmen 993.

Catopodium rigidum (L.) C.E. Hubbard ex Dony subsp. *rigidum* var. *majus* (C.Persl) Lainz

Erzin, around Karaoluk, clearing of F. orientalis forest, 1300 m, 26.6.1989, Türkmen 962.

Poa annua L.

Dörtüol, around Kırkelma, F. orientalis forest, 1500 m, 30.5.1991, Cosm., Türkmen 984.

P. timoleontis Heldr. ex Boiss.

Erzin, around İçme, degraded macchie, 300 m, 2.4.1990, Med., Türkmen 986.

P. bulbosa L.

Dörtüol, top slopes of Miğir, stony areas, 2100 m, 4.6.1990, Türkmen 985.

Eromopoa songarica (Schrenk) Roshev.

Dörtüol, around Çardak, roadside, 1400 m, 31.5.1990, Ir.-Tur., Türkmen 973.

Dactylis glomerata L. subsp. *glomerata*

Erzin, east of Başlamış Village, P. brutia forest roadside, 700 m, 31.10.1991, Türkmen 967.

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

Erzin, around İçme, P. brutia forest, 800 m, 30.5.1990, Türkmen 968.

Cynosurus echinatus L.

Erzin, top slopes of Keldağ, 1700-2000 m, 28.6.1990, Med., Türkmen 966.

Briza minor L.

Dörtüol, around Çökek, streamside, 650 m, 8.5.1992, Türkmen 956.

Echinaria capitata (L.) Scop.

Dörtüol, roadside, 30 m, 5.4.1990, Türkmen 971.

Melica uniflora Retz

Erzin, east of Başlamış Village, P. brutia forest, 700 m, 3.6.1989, Euro-Sib., Türkmen 979.

M. eligulata Boiss.

Erzin, near Kızlarçayı Village, Hillside, 700 m, 22.8.1991, Med., Türkmen 977.

M. minuta L.

Erzin, east of Başlamış Village, P. brutia forest, 750 m, 30.5.1990, Med., Türkmen 978.

Stipa holosericea Trin

Erzin, around Kengerlidüz, mixed forest, 1650 m, 11.8.1989, Ir.-Tur., Türkmen 990.

Piptatherum coerulescens (Desf.) P. Beauv.

Dörtüol, around Çökek, streamside, 700 m, 8.5.1990, Türkmen 983.

Arundo donax L.

Dörtüol, streamside, 70 m, 26.9.1990, Türkmen 954.

Phragmites australis (Cav.) Trin. ex Steudel

Erzin, around Toprakkale, marshy place, 70 m, 17.10.1990, Euro-Sib., Türkmen 982.

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

Dörtüol, around Çökek, degraded macchie, 350 m, 8.5.1990, Türkmen 965.

Crypsis alopecuroides (Piller & Mitterp.) Schrader

Dörtüol, around Kapulu, Q. cerris forest, 1070 m, 26.6.1989, Türkmen 964.

**Tragus racemosus* (L.) All.

Dörtüol, streamside, 20 m, 2.8.1990, Türkmen 992.

**Echinochloa colonum* (L.) Link

Dörtüol, around BOTAŞ, roadside, 70 m, 3.7.1990, Türkmen 972.

Digitaria sanguinalis (L.) Scop.

Dörtüol, roadside, 30 m, 29.11.1990, Türkmen 970.

Paspalum paspaloides (Michx.) Scribner

Dörtyol, streamside, 20 m, 27.9.1990, Türkmen 980.

Saccharum ravennae (L.) Murray

Dörtyol, streamside, 30 m, 27.9.1990, Türkmen 987.

S. strictum (Host) Sprengel

Erzin, east of Başlamış Village, P. brutia forest, 800 m, 25.7.1991, Türkmen 988.

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

Between Dörtyol and Erzin, field border, 150 m, 3.6.1990, Türkmen 989.

Chrysopogon gryllus (L.) Trin.

Erzin, east of Başlamış Village, macchie, 500 m, 30.5.1990, Türkmen 963.

Dicanthium annulatum (Forsskal.) Stapf.

Dörtyol, around Çökek, roadside, 450 m, 8.5.1992, Ir.-Tur., Türkmen 969.

Hyparrhenia hirta (L.) Stapf.

Dörtyol, garden border, 60 m, 29.11.1990, Türkmen 975.

Themeda triandra Forsskal.

Erzin, around İçme, macchie, 500 m, 2.8.1990, Türkmen 991.