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The Flora of Kalecik Mountain (Şanlıurfa, Turkey)

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Abstract: This research was carried out in 2002 and 2003 in order to determine the flora of Kalecik Mountain. The research area is situated in Şanlıurfa province and within C7 of the grid system. In the area, 238 taxa belonging to 39 families, and 140 genera, were determined. Of all the collected specimens, 28 taxa are new records for C7, and 13 (5.46%) taxa are endemic for Turkey.

In the distribution of the species according to floristic regions, Irano-Turanian elements ranked first with a rate of 39.07%, followed by Mediterranean elements with a rate of 8.40% and Euro-Siberian elements with a rate of 1.68%. Some 19.75% of the determined species were widespread while 31.93% of the taxa are of unknown phytogeographic region.

The families with the most taxa in the research area are Fabaceae (56), Asteraceae (25), Lamiaceae (19), Brassicaceae (14), Apiaceae (14) and Poaceae (13). Concerning the number of species, the richest genera in this region are as follows: *Astragalus* L. (11), *Vicia* L. (10), *Trifolium* L. (8), *Trigonella* L. (6), *Medicago* L. (6) and *Salvia* L. (5).

According to the life forms, Therophytes come first with a rate of 52.52% in the region, followed by Hemicryptophytes (35.29%), Geophytes (6.72%), Phanerophytes (3.78%), and Chamaephytes (1.68%).

Key Words: Flora, Kalecik Mountain, Şanlıurfa

Kalecik Dağı (Şanlıurfa) Florası

Özet: Bu araştırma 2002-2003 yılları arasında Kalecik Dağının florasını tespit etmek üzere yapılmıştır. Araştırma alanı Şanlıurfa il sınırları içerisinde ve Grid sistemine göre C7 karesindedir. Araştırma bölgesinde 39 familyaya bağlı 140 cins ve 238 takson tespit edilmiştir. Bunlardan 28 takson C7 karesi için yeni kayıt, 13 (% 5,46) takson Türkiye için endemiktir.

Araştırma alanından toplanan 238 taksonun fitocoğrafik bölgelere göre dağılımı; İran-Turan elementleri % 38,24, Akdeniz elementleri % 8,40 ve Avrupa-Sibirya elementleri % 1,68 şeklindedir. Teşhisi yapılan taksonların % 19,75'i geniş yayılışlı, % 31,9'ünün ise hangi fitocoğrafik bölge elementi olduğu bilinmemektedir.

Araştırma alanında en fazla taksona sahip familyalar; Fabaceae (56), Asteraceae (25), Lamiaceae (19), Brassicaceae (14), Apiaceae (14) ve Poaceae (13)'dir. Alanda en çok taksona sahip cinslerin önemlileri; *Astragalus* L. (11), *Vicia* L. (10), *Trifolium* L. (8), *Trigonella* L. (6), *Medicago* L. (6) ve *Salvia* L. (5)'dir.

Araştırma alanından toplanan bitkilerin hayat formlarına göre dağılımı; Terofitler % 52,52, Hemikriptofitler % 35,29, Geofitler % 6,72, Fanerofitler % 3,78, Kamefitler % 1,68 şeklindedir.

Anahtar Sözcükler: Flora, Kalecik Dağı, Şanlıurfa

Introduction

This research was carried out to determine the flora of Kalecik mountain in Şanlıurfa. The vegetation of the area has been extensively destroyed by anthropogenic effects and, therefore, plants can barely survive under the unsuitable agricultural conditions. Şanlıurfa is a province in the South-East Anatolia Project (GAP) area. Natural habitats have been destroyed by the construction of dams

and tunnels for the irrigation of plains (Sezik, 1990). Therefore, the biological diversity, especially endemic plants, has been affected by this project. After the construction of dams, the populations of the rare plants should be examined scientifically, and new reports should be prepared for the conservation of plant species.

According to the Flora of Turkey (Davis, 1965-1985; Davis et al., 1988; Güner et al., 2000), some foreign

researchers, among them Kotschy, Sintenis, Davis and Zohary, have visited and gathered plant specimens from Şanlıurfa (Baytop, 2003). In south-east Anatolia, some floristic investigations, such as “The Flora of Ziyaret Mountain in Ergani (Diyarbakır)” (T. Taşkın unpubl. data, 1991), “The Flora of Botan stream (Uluçay) valley in Siirt” (S. Yangın unpubl. data, 2001), “The Flora of Tektek Mountains in Şanlıurfa” (Ö. F. Kaya unpubl. data, 2002), “The Flora of Direkli Hills in Şanlıurfa” (N. Aydın unpubl. data, 2003), “The Flora of Eğil town in Diyarbakır” (Ş. Gülmez unpubl. data, 2003), “The Flora of Sof Mountain in Gaziantep” (E. Özusul unpubl. data, 2003), and “The Flora of Kaşmer Mountain in Şanlıurfa” (H. Akan et al. unpubl. data, 2004) have been performed recently, but there has been no vegetational research to date, except for a study carried out by Zohary (1973).

Some floristic and taxonomic studies were carried out around south-east Anatolia (Kaynak & Ketenoğlu, 1980), (Malyer, 1981, 1983), (Kaynak 1986, 1987, 1989a, 1989b), (Adıgüzel & Aytaç, 2001), (Ertekin & Saya, 1997, Ertekin 2002), (Akan & Eker, 2004), but no regular floristic study has been performed in our research

area, Kalecik mountain. Therefore, the aim of this research was to determine the flora of Kalecik mountain, and to determine the endemic and rare plant species.

South-east Anatolia is a “little known” or “unknown” region of Turkey, with regard to floristic studies (Davis, 1975; Çirpıcı 1987). The research area is inside the “little known” area. Thus, this study is expected to contribute to the flora of Şanlıurfa, planned to be written in the future.

The research area, Kalecik mountain, is located in the Irano-Turanian phytogeographic region and is situated in the C7 square and completely located within the province of Şanlıurfa.

Kalecik mountain is located in the north-west of Şanlıurfa province, and it consists of 3 hills. It is very close to the Euphrates, and is an important region representing the floristic composition of the province. The altitude varies between 500 and 905 m. There are 4 villages and a town in and around the research area. Generally settlements are dense at the foot of the mountain. The town is Bozova; the villages in and around the research area are Kalecik, Kırkpınar, Korukezen and Yarımtepe (Figure 1).

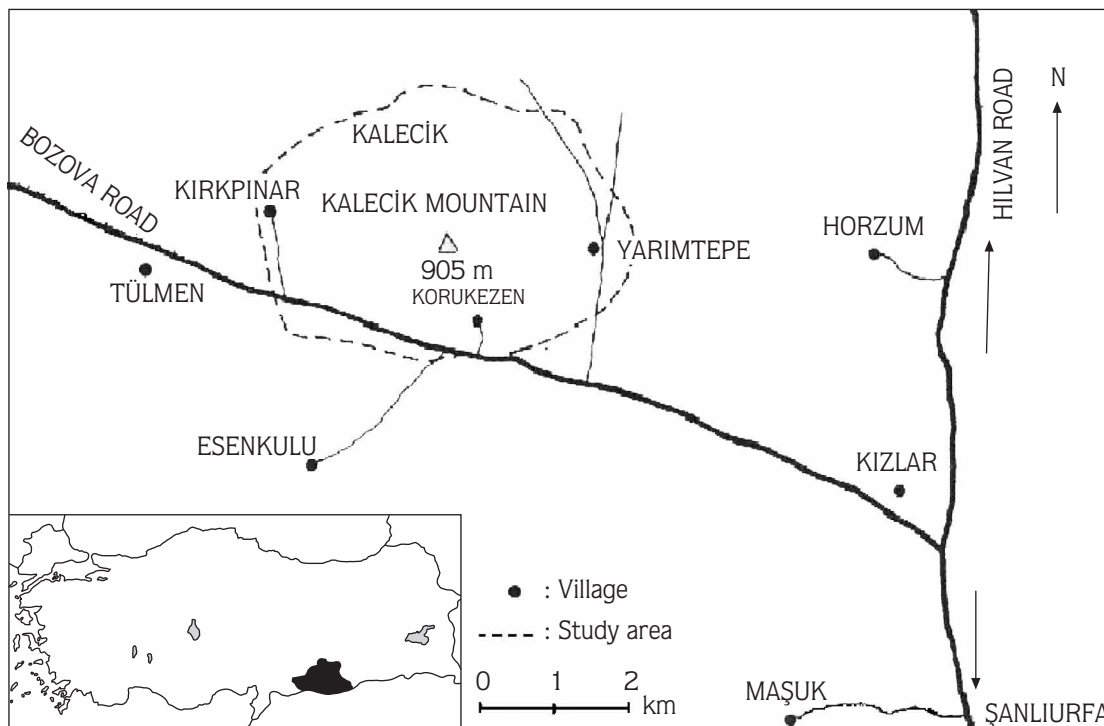


Figure 1. Geographic map of the study area.

Climate: The research area has a semiarid Mediterranean climate. According to Emberger the precipitation-temperature coefficient (Q) is 42.94 (Akman, 1990). Annual mean temperature is 18.7 °C. The maximum mean temperature (M) is 46.8 °C in July. The minimum mean temperature (m) is -6.8 °C in February. Annual rainfall is about 457.8 mm (Meteoroloji Bülteni, 1994), and the seasonal precipitation regime is winter, spring, autumn and summer. This is the first variant of the East Mediterranean precipitation regime. The ombrothermic diagram shows dry and rainy periods (Figure 2).

Materials and Methods

To constitute the research material, 516 plant specimens were collected from Kalecik mountain in 2002 and 2003 in different vegetation seasons. A collector number was given, and the specimens were dried according to the standard herbarium methods. The "Flora of Turkey and the East Aegean Islands" (Davis, 1965-1985; Davis et al., 1988) was used to identify the plant samples. The Poaceae specimens were checked by Dr. Vagif Hatemov, geophytes by Prof. Dr. Mehmet Koyuncu and Res. Assist. İsmail Eker, *Trifolium* L. members by Mustafa Keskin, and *Onobrychis* Adans. and *Hedysarum* L. members by Ekrem Aktoklu.

The species found are listed below. The list is set out according to the order in the Flora of Turkey. The following details are given: family name, species name and the author(s), name of the district, habitat of the plant, altitude, collection date, collector number, endemism and the phytogeographic region element. New records for C7 are indicated with an asterisk in the list.

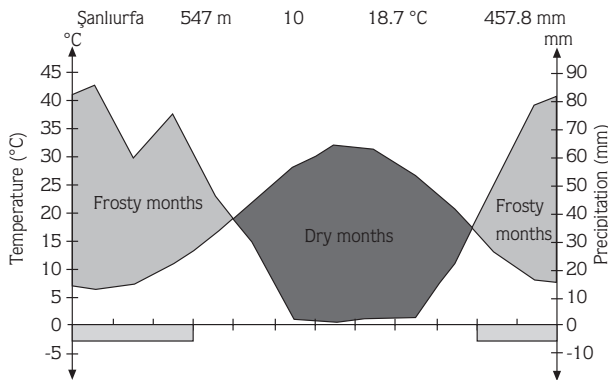


Figure 2. Ombrothermic diagram of Şanlıurfa, Turkey.

The endemic species were categorised according to IUCN Red Data categories (Ekim et al., 2000; IUCN Survival Commission, 2001). The abbreviations used are as follows:

CR-Critically endangered; VU-Vulnerable; LC-Least concern.

The area is completely within C7 and Şanlıurfa province, and so "C7 Şanlıurfa; Kalecik Mountain" has been omitted from the citations.

The following abbreviations are used in the text:

E: east

Euro.-Sib.: Euro-Siberian

Ir.-Tur.: Irano-Turanian

m: metre

Medit.: Mediterranean

N: North

NE: North-east

NW: North-west

S: South

SE: South-east

SW: South-west

subsp.: subspecies

var.: variety

W: West

The plant samples collected from the region are kept in the herbarium of Harran University, Şanlıurfa.

Vegetation

In the research area, steppe vegetation is characterised by Fabaceae, Asteraceae, and Poaceae members. *Triticum* L., *Hordeum* L., *Aegilops* L., *Anthemis* L., *Achillea* L., *Centaurea* L., *Lathyrus* L., *Trifolium* L., *Trigonella* L. and *Medicago* L. genera are dominant.

Cerasus mahaleb (L.) Mill. var. *mahaleb*, *Amygdalus communis* L., *Amygdalus lycioides* Spach var. *lycioides*, *Rosa canina* L., *Crataegus aronia* var. *aronia* (L.) Bosc ex DC., *Crataegus monogyna* Jacq. subsp. *monogyna* are examples of trees and shrubs that are spread at intervals.

There are some cultivated fields around the mountain where mainly pistachios, olives, grapes and walnuts are grown.

The agriculture is based on cereals, essentially wheat and lentils. However, some vegetables are also grown, such as tomatoes, peppers, and ambergine. At the same time, pistachios are widely cultivated.

THE FLORISTIC LIST

ANGIOSPERMAE

DICOTYLEDONES

RANUNCULACEAE

Delphinium macrostachyum Boiss. ex Huth

Around Kalecik district, stony places, 800 m, 08.06.2002, M.Aydoğdu 1177 & Akan.

Ir.-Tur. element.

Adonis flammea Jacq.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1072; Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1370 & Akan; around Kalecik district, fields, 900 m, 23.05.2002, M.Aydoğdu 1132, 1142; NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1271; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1465 & Akan.

Ranunculus sericeus Banks & Sol.

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1238 & 1254.

Ir.-Tur. element.

R. neapolitanus Ten.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1052, 1053; NW of Korukezen village, limestone, 750-850 m, 14.04.2002, M.Aydoğdu 1074.

R. constantinopolitanus (DC.) d'Urv.

Korukezen village, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1399; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1441; *ibid.*, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1309.

R. arvensis L.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1104 & Akan; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1311, 1310.

Ceratocephalus falcatus (L.) Pers.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1061; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1082.

C. testiculatus (Crantz) Roth

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1213/b.

PAPAVERACEAE

Glaucium corniculatum (L.) Rudolph subsp. *corniculatum*

NW of Korukezen village, limestone, 750-850 m, 08.06.2003, M.Aydoğdu 1490.

G. grandiflorum Boiss. & A.Huet var. *grandiflorum*

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1140; around Korukezen village, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1398; E of Kırkpınar village, 600-650 m, fields, 04.05.2003, M.Aydoğdu 1332.

Ir.-Tur. element.

Roemeria hybrida (L.) DC. subsp. *hybrida*

Korukezen village, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1355.

Papaver arenarium M.Bieb.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1152; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1331.

P. clavatum Boiss. & Hausskn. ex Boiss.

N of Karababa hill, 650-700 m, 08.06.2003, M.Aydoğdu 1488; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1348.

Endemic.

Hypecoum procumbens L.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1212/a, 1218/a; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1076; district of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1123; NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1265; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1454, 1467.

Medit. element.

H. pendulum L.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1210; *ibid.*, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1323,1342; Korukezen village, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1409/c.

Fumaria asepalae Boiss.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1111.

Ir.-Tur. element.

BRASSICACEAE (CRUCIFERAE)**Sinapis alba** L.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1092; E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1208, 1209, 1219, 1216; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1037/a.

S. arvensis L.

E of Kırkpınar village, fields, 500-850 m, 25.05.2003, M.Aydoğdu 1440; district of Kalecik, stony places, 900 m, 23.05.2002, M.Aydoğdu 1130.

Crambe orientalis L. var. **orientalis**

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1227.

Ir.-Tur. element.

Lepidium sativum L. subsp. **sativum**

District of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1117.

L. latifolium L.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1433.

Cardaria draba (L.) Desv.

District of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1162, 1112; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1422; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1371; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1315/a.

Isatis lusitanica L.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1318.

Iberis acutiloba Bertol.

N of Korukezen village, fields, 700 m, 06.04.2003, M.Aydoğdu 1187, 1182/b; *ibid.*, 750-780 m, 24.04.2003, M.Aydoğdu 1284/a, 1261.

Thlaspi perfoliatum L.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1212/b, 1182/a; *ibid.*, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1349; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1033/a, 1063/a; Korukezen village, fields, 700 m, 06.04.2003, M.Aydoğdu 1192.

Alyssum meniocooides Boiss.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1303.

Ir.-Tur. element.

A. szovitsianum M.A.Fisch. & C.A.Mey.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002 M.Aydoğdu 1091, 1067; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1296; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1037/b, 1036, 1038, 1042.

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

E of Kırkpınar village, wet places, 800 m, 06.04.2003, M.Aydoğdu 1203.

Malcolmia crenulata (DC.) Boiss.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1221; N of Korukezen, fields, 700 m, 06.04.2003, M.Aydoğdu 1195; *ibid.*, 24.04.2003 M.Aydoğdu 1259, 1268, 1288.

Ir.-Tur element.

***Erysimum goniocaulon** Boiss.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1387.

CAPPARACEAE**Capparis ovata** Desf. var. **palaestina** D.Zohary

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1504.

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

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1094; *ibid.*, 24.04.2003

M.Aydoğdu 1242; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1334.

CISTACEAE

Helianthemum salicifolium (L.) Mill.

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1266; E of Kırkpınar, 600-650 m, fields, 04.05.2003, M.Aydoğdu 1330,1354.

VIOLACEAE

Viola modesta Fenzl

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1066.

CARYOPHYLLACEAE

Minuartia picta (Sibth. & Sm.) Bornm.

N of Korukezen village, fields, 700 m, 06.04.2003, M.Aydoğdu 1186.

M. formosa (Fenzl) Mattf.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1032; NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1267; *ibid.*, 14.04.2002, M.Aydoğdu 1071.

M. decipiens (Fenzl) Bornm.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1037/c, NW of Korukezen, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1276.

Dianthus strictus Banks & Sol. var. *strictus*

NW of Korukezen village, foot of mountain, stony places, 650-700 m, 08.06.2003, M.Aydoğdu 1502.

**Gypsophila viscosa* Murray

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1425, 1448.

Ir.-Tur. element.

Vaccaria pyramidata Medik. var. *oxyodonta* (Boiss.) D.Zohary

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1137.

Ir.-Tur. element.

Silene dichotoma Ehrh. subsp. *dichotoma*

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1251.

S. coniflora Nees

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1289, 1300.

POLYGONACEAE

**Rumex chalepensis* Mill.

District of Kalecik village, steppe, 800 m, 08.06.2002, M.Aydoğdu 1175.

HYPERICACEAE (GUTTIFERAE)

Hypericum retusum Aucher

District of Kalecik village, steppe, 800 m, 08.06.2002, M.Aydoğdu 1180.

Ir.-Tur. element.

Hypericum capitatum Choisy var. *capitatum*

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1364.

Endemic. Ir.-Tur. element.

var. *luteum* N.Robson

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1496; *ibid.*, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1390.

Ir.-Tur. element.

Hypericum triquetrifolium Turra

SE of Kalecik mountain, limestone places, 750 m, 20.08.2003, M.Aydoğdu 1514.

MALVACEAE

**Alcea apterocarpa* (Fenzl) Boiss.

District of Kalecik village, roadside, 900 m, 23.05.2002, M.Aydoğdu 1170. E of Kalecik mountain, Yarımtepe village, roadside, 650-700 m, 08.06.2003, M.Aydoğdu 1477/b; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1300.

Endemic.

**Althaea armeniaca* Ten.

E of Kalecik mountain, Yarımtepe village, roadside, 700 m, 08.06.2003, M.Aydoğdu 1477/a.

LINACEAE

Linum mucronatum Bertol. subsp. *mucronatum*

NW of Korukezen village, limestone places, 750-780 m, 24.04.2003, M.Aydoğdu 1237, 1260; *ibid.*, 19.05.2003, M.Aydoğdu 1385; *ibid.*, 14.04.2002, M.Aydoğdu 1086; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1327.

Ir.-Tur. element.

**L. catharticum* L.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1291.

Euro.-Sib. element.

GERANIACEAE

**Geranium dissectum* L.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1060, 1051; N of Karababa hill, 650-700 m, 08.06.2003, M.Aydoğdu 1487.

G. tuberosum L. subsp. *tuberosum*

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1244; *ibid.*, 06.04.2003, M.Aydoğdu 1202; *ibid.*, 17.03.2002, M.Aydoğdu 1005, 1024 & Akan; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1312.

subsp. *deserti-syriacum* P.H. Davis

NW of Korukezen village, fields, 750-780m, 24.04.2003, M.Aydoğdu 1243; *ibid.*, fields, 700 m, 17.03.2002, M.Aydoğdu 1009 & Akan; *ibid.*, 14.04.2002, M.Aydoğdu 1067, 1096.

Ir.-Tur. element.

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

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1470/d; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1063/b, 1040, 1033/c.

FABACEAE (LEGUMINOSAE)

Astragalus suberosus Banks & Sol. subsp. *ancyleus* (Boiss.) V.A.Matthews

NW of Korukezen village, 700 m, stony places, 17.03.2002, M.Aydoğdu 1028, 1027, 1029, 1031 & Akan.

Endemic.

A. aleppicus Boiss.

NW of Korukezen village, limestone, 700 m, 17.03.2002, M.Aydoğdu 1001, 1002, 1017 & Akan; *ibid.*, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1228; N of Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1201; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1443.

Ir.-Tur. element.

**A. nervulosus* Eig & Reese emend. Hub.-Mor.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1446.

Endemic. Ir.-Tur. element.

**A. mardinensis* Nàb lek

NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1245; N of Korukezen village, limestone places, 700 m, 06.04.2003, M.Aydoğdu 1200; around Korukezen village, limestone, 700 m, 19.05.2003, M.Aydoğdu 1402.

Endemic. Ir.-Tur. element.

A. lanigerus Desf.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1018 & Akan.

Ir.-Tur. element.

**A. angustiflorus* C.Koch. subsp. *angustiflorus*

E of Kırkpınar village, steppe, 800 m, 06.04.2003, M.Aydoğdu 1207.

Ir.-Tur. element.

A. russelii Banks & Sol.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1099.

Ir.-Tur. element.

A. aduncus Willd.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1463.

Ir.-Tur. element.

A. xylobasis Freyn & Bornm. var. *angustus* (Freyn & Sint.) Freyn & Bornm.

Near Korukezen village, limestone, 600-700 m, 19.05.2003, M.Aydoğdu 1369.

Ir.-Tur. element.

A. scabrifolius Boiss.

NW of Korukezen village, steppe, 750-780 m, 24.04.2003, M.Aydoğdu 1239, 1248.

Endemic. Ir.-Tur. element.

A. elongatus Willd. subsp. **nucleiferus** (Boiss.) D.F.Chamb.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1015 & Akan; *ibid.*, 14.04.2002, M.Aydoğdu 1085.

Ir.-Tur. element.

Glycyrrhiza glabra L. var. **glabra**

E of Kalecik mountain, Yarımtepe hill, roadside, 650-700 m, 08.06.2003, M.Aydoğdu 1473.

Vicia palaestina Boiss.

Near Korukezen village, fields, 700 m, 19.05.2003, M.Aydoğdu 1375.

Medit. element.

V. ervilia (L.) Willd.

NW of Korukezen village, fields, 780 m, 24.04.2003, M.Aydoğdu 1273/b; E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1325/b.

***V. lunata** (Boiss. & Bal.) Boiss. var. **lunata**

E of Kırkpınar village, stony places, 850 m, 25.05.2003, M.Aydoğdu 1458; near Korukezen, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1408.

V. assyriaca Boiss.

E of Kırkpınar village, fields, 650 m, 04.05.2003, M.Aydoğdu 1341.

Ir.-Tur. element.

V. anatolica Turriell

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1273/a; near Kalecik village, steppe, 900 m, stony places, 23.05.2002, M.Aydoğdu 1136/a; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1041; NW of Korukezen village, limestone places, 850 m, 14.04.2002, M.Aydoğdu 1083/a.

Ir.-Tur. element.

V. hybrida L.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1361.

V. cuspidata Boiss.

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1283.

Medit. element.

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

Near Korukezen village, limestone, 700 m, 19.05.2003, M.Aydoğdu 1363; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1328.

subsp. **nigra** (L.) Ehrh. var. **nigra**

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1301; *ibid.*, 25.05.2003, M.Aydoğdu 1459/b; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1083/b, 1084/b; *ibid.*, 24.04.2003, M.Aydoğdu 1269/b.

subsp. **nigra** (L.) Ehrh. var. **segetalis** (Thuill.) Ser. ex DC.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1084/a.

Lens orientalis (Boiss.) Hand.-Mazz.

NW of Korukezen village, fields, 780 m, 24.04.2003, M.Aydoğdu 1286, 1262/b, 1270; near Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1136/b.

Lathyrus sativus L.

NW of Korukezen village, fields, 750-850 m, 14.04.2002, M.Aydoğdu 1079/a; *ibid.*, 24.04.2003, M.Aydoğdu 1269/a, 1282; near Korukezen village, stony places, 700 m, 19.05.2003, M.Aydoğdu 1365; E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1326.

***L. aphaca** L. var. **modestus** P.H.Davis

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1329; NW of Korukezen village, stony places, 850 m, 14.04.2002, M.Aydoğdu 1078.

Medit. element.

Pisum sativum L. subsp. **elatius** (M.Bieb.) Asch. & Graebn. var. **pumilio** Meikle

District of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1147; E of Kırkpınar village, fields, 650 m, 04.05.2003, M.Aydoğdu 1322; NW of Korukezen village, stony places, 850 m, 14.04.2002, M.Aydoğdu 1088.

Ononis spinosa L. subsp. **leiosperma** (Boiss.) Sirj.

District of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1168/a; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1435.

Trifolium campestre Schreb.

E of Kırkpınar village, fields, 500-850 m, 25.05.2003, M.Aydoğdu 1457; district of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1108, 1134.

T. spumosum L.

Near Korukezen village, stony places, 700 m, 19.05.2003, M.Aydoğdu 1382; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1302/b.

Medit. element.

T. resupinatum L. var. **resupinatum**

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1107.

T. tomentosum L. var. **tomentosum**

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1344.

T. dasyurum C.Presl

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1451.

Medit. element.

T. leucanthum M.Bieb.

Near Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1114.

T. echinatum M.Bieb. var. **echinatum**

Near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1165.

Medit. element.

T. pilulare Boiss.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1302/a.

Trigonella coelesyriaca Boiss.

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1247; E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1353; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1081.

Ir.-Tur. element.

T. spruneriana Boiss. var. **spruneriana**

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1139/b; E of Kırkpınar village, stony places, 850 m, 25.05.2003, M.Aydoğdu 1468/a; near Korukezen village, fields, 600-700 m, 19.05.2003, M.Aydoğdu 1414, 1416/a; NW of Korukezen village, stony places, 850 m, 14.04.2002, M.Aydoğdu 1073.

Ir.-Tur. element.

T. mesopotamica Hub.-Mor.

E of Kırkpınar village, steppe, 650 m, 04.05.2003, M.Aydoğdu 1350, 1325/a.

Ir.-Tur. element.

T. filipes Boiss.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1351.

Ir.-Tur. element.

T. monantha C.A.Mey. subsp. **monantha**

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1218/b; district of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1139/a; E of Kırkpınar village, stony places, 850 m, 25.05.2003, M.Aydoğdu 1470/a; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1080.

Ir.-Tur. element.

T. monspeliaca L.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1352.

Medit. element.

Medicago radiata L.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1168/b.

Ir.-Tur. element.

M. orbicularis (L.) Bartal.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1109.

***M. noeana** Boiss.

NW of Korukezen village, fields, 700-780 m, 24.04.2003, M.Aydoğdu 1229/b.

Ir.-Tur. element.

M. minima (L.) Bartal. var. *minima*

NW of Korukezen village, fields, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1281/a; District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1105, 1127; E of Kırkpınar village, stony places, 850 m, 25.05.2003, M.Aydoğdu 1469, M.Aydoğdu 1457/b.

M. polymorpha L. var. *vulgaris* (Benth.) Shinnars

E of Kırkpınar village, 850 m, stony places, 25.05.2003, M.Aydoğdu 1464.

M. rigidula (L.) All. var. *rigidula*

N of Karababa hill, 650-700 m, 08.06.2003, M.Aydoğdu 1484.

Coronilla scorpioides (L.) C.Koch

Near Korukezen village, fields, 600-700 m, 19.05.2003, M.Aydoğdu 1417/b; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1077.

Hippocrepis unisiliquosa L. subsp. *unisiliquosa*

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1500/a.

Scorpiurus muricatus L. var. *subvillosus* (L.) Fiori

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1468/b; E of Kırkpınar village, fields, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1329; NW of Korukezen village, stony places, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1264; near Korukezen village, stony places, 600-700 m, 19.05.2003, M.Aydoğdu 1416/b.

Medit. element.

Hedysarum pannosum (Boiss.) Boiss.

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu, 1500/b; near Korukezen village, fields, 600-700 m, 19.05.2003, M.Aydoğdu 1395.

Ir.-Tur. element.

Onorbrychis kotschyana Fenzl

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1275.

O. armena Boiss. & A.Huet

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1424; near Korukezen village, fields, 600-700 m, 19.05.2003, M.Aydoğdu 1407.

Endemic.

O. altissima Grossh.

District of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1157.

O. megataphros Boiss. var. *podperae* Sirj. & Nàb lek

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1493.

Ir.-Tur. element.

Alhagi pseudalhagi (M.Bieb.) Desv.

SE of Kalecik mountain, fields, 750 m, 20.08.2003, M.Aydoğdu 1516.

Ir.-Tur. element.

ROSACEAE

***Cerasus mahaleb** (L.) Mill. var. *mahaleb*

E of Kalecik mountain, near Yarımtepe village, roadside of garden, 650-700 m, 08.06.2003, M.Aydoğdu 1472.

Amygdalus communis L.

NW of Korukezen village, stony places, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1250; N of Korukezen village, stony places, fields, 700 m, 06.04.2003, M.Aydoğdu 1193; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1064; NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1007, 1008 & Akan.

A. lycioides Spach var. *lycioides*

NW of Korukezen village, stony places, 750 m, 24.04.2003, M.Aydoğdu 1225.

Ir.-Tur. element.

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

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1374.

Rosa canina L.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1048.

Crataegus aronia var. *aronia* (L.) Bosc ex DC.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1098.

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

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1507.

CRASSULACEAE

Umbilicus horizontalis (Guss.) DC. var. **intermedius** (Boiss.) D.F.Chamb.

Near Korukezen village, stony places, 600-700 m, 19.05.2003, M.Aydoğdu 1410.

APIACEAE (UMBELLIFERAE)

***Echinophora tenuifolia** L. subsp. **sibthorpiana** (Guss.) Tutin

District of Kalecik village, stony places, 800 m, 08.06.2002, M.Aydoğdu 1178.

Ir.-Tur. element.

Scandix stellata Banks & Sol.

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1125.

S. pecten-veneris L.

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1272.

Bifora testiculata (L.) Spreng. ex Schult.

NW of Korukezen village, fields, 750-780 m, 24.04.2003, M.Aydoğdu 1262; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1068.

Bunium paucifolium DC. var. **paucifolium**

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1366.

Ir.-Tur. element.

Pimpinella eriocarpa Banks & Sol.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1417/a, 1367; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1315/b.

Ir.-Tur. element.

P. corymbosa Boiss.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1343; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1466; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1418; Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1164.

Prangos peucedanifolia Fenzl

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1431; district of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1167.

Ir.-Tur. element.

Bupleurum gerardii All.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1436; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1417/c.

***Torilis nodosa** (L.) Gaertn.

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1113.

T. leptophylla (L.) Rchb.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1392; district of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1141.

Turgenia latifolia (L.) Hoffm.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1455.

Lisaea heterocarpa (DC.) Boiss.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1222, 1220/a.

Ir.-Tur. element.

***Daucus broteri** Ten.

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1481.

VALERIANACEAE**Valerianella vesicaria** (L.) Moench

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1122; NW of Korukezen village, stony places, 850 m, 14.04.2002, M.Aydoğdu 1070; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1411.

DIPSACACEAE**Scabiosa argentea** L.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1391.

S. persica Boiss.

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1153, 1155; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1434, 1462; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1393.

Ir.-Tur. element.

S. rotata M.Bieb.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1423.

Ir.-Tur. element.

ASTERACEAE (COMPOSITAE)

Filago pyramidata L.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1409/a; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1338/b.

Bellis perennis L.

E of Kırkpınar village, wet places, 600-650 m, 04.05.2003, M.Aydoğdu 1308.

Senecio vernalis Waldst. & Kit.

Near Kalecik, wet places, 900 m, 23.05.2002, M.Aydoğdu 1129; NW of Korukezen village, fields, 750-850 m, 14.04.2002, M.Aydoğdu 1075; NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1034; near Korukezen village, wet places, 600-700 m, 19.05.2003, M.Aydoğdu 1409/a; E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1316, 1345; *ibid.*, 25.05.2003, M.Aydoğdu 1439; N of Korukezen village, fields, 700 m, 06.04.2003, M.Aydoğdu 1188.

Anthemis hyalina DC.

NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1274; E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1313, 1347/a; *ibid.*, 25.05.2003, M.Aydoğdu 1437; near Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1133, 1150; Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1401, 1415.

A. altissima L.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1314.

Achillea aleppica DC. subsp. *aleppica*

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1450; NW of Korukezen village, stony places, 850 m, 14.04.2002, M.Aydoğdu 1089; *ibid.*, 19.05.2003, M.Aydoğdu 1357 & 1380.

Ir.-Tur. element.

Tanacetum argenteum (Lam.) Willd. subsp. *argenteum*

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1373.

Endemic. Ir.-Tur. element.

Gundelia tournefortii L. var. *armata* Freyn & Sint.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1396; district of Kalecik, steppe, 900 m, 23.05.2002, M.Aydoğdu 1171.

Ir.-Tur. element.

***Cirsium vulgare** (Savi) Ten.

SE of Kalecik mountain, limestone places, 750 m, 20.08.2003, M.Aydoğdu 1503.

Notobasis syriaca (L.) Cass.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1372; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1452; district of Kalecik village, steppe, 800 m, 08.06.2002, M.Aydoğdu 1174.

Medit. element.

Carduus nutans L. subsp. *nutans*

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1166.

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

NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1241.

Centaurea solstitialis L. subsp. *solstitialis*

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1159.

C. triumfettii All.

E of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1506.

C. depressa M.Bieb.

District of Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1115.

Crupina crupinastrum (Moris) Vis.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1426.

Echinops viscosus DC. subsp. **bithynicus** (Boiss.) Rech.f.

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1512.

Ir.-Tur. element.

E. orientalis Trautv.

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1511.

Ir.-Tur. element.

Scorzonera mollis M.Bieb. subsp. **szowitzii** (DC.) D.F.Chamb.

District of Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1153.

Ir.-Tur. element.

Scorzonera kotschy Boiss.

NW of Korukezen village, fields, 780 m, 24.04.2003, M.Aydoğdu 1240; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1419.

Ir.-Tur. element.

Tragopogon buphthalmoides (DC.) Boiss. var. **buphthalmoides**

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1360; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1449.

Lactuca serriola Boiss.

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1505.

Euro.-Sib. element.

***Taraxacum sintenisii** Dahlst.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1295.

***T. phaleratum** G.E.Haglund ex Rech.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1224.

Crepis foetida L. subsp. **rhoeadifolia** (M.Bieb.) Celak.

E of Kırkpınar village, stony places, 500-850 m,

25.05.2003, M.Aydoğdu 1453; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1413.

CAMPANULACEAE***Asyneuma filipes** (Nab lek) Damboldt

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1087.

Ir.-Tur. element.

APOCYNACEAE**Vinca herbacea** Waldst. & Kit.

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1233.

CONVOLVULACEAE**Convolvulus arvensis** L.

E of Kırkpınar village, stony places, 500-750 m, 25.05.2003, M.Aydoğdu 1432.

BORAGINACEAE**Onosma sericeum** Willd.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1403; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu; E of Kalecik mountain, near Yarımtepe village, 650-700 m, 08.06.2003, M.Aydoğdu 1476; NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1491, 1494.

Ir.-Tur. element.

O. isauricum Boiss. & Heldr.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1456, 1447

Endemic. Ir.-Tur. element.

Anchusa azurea Mill.

var. **azurea**

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1305.

var. **kurdica** (Guşul) D.F.Chamb.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1026 & Akan.

A. strigosa Labill.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1010 & Akan; NE of Kırkpınar

village, roadside, 850 m, 03.04.2002, M.Aydoğdu 1058; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1306; NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1246; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1376.

Alkanna hirsutissima (Bertol.) DC.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1045; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1102; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1337.

Ir.-Tur. element.

**A. megacarpa* DC.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1292; NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1252.

Endemic. Ir.-Tur. element.

SOLANACEAE

Hyoscyamus niger L.

E of Kırkpınar village, fields, 600-650 m, 04.05.2003, M.Aydoğdu 1320.

SCROPHULARIACEAE

Verbascum orientale (L.) All.

NW of Korukezen village, stony places, 850 m, 08.06.2003, M.Aydoğdu 1499.

Medit. element.

Scrophularia canina L.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1305; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1126; E of Kalecik mountain, near Yarımtepe village, 650-700 m, 08.06.2003, M.Aydoğdu 1478.

Medit. element.

Veronica reuterana Boiss.

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1213/c; Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1189.

Ir.-Tur. element.

V. syriaca Roemer & Schult.

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1100, 1101; NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1280, 1256; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1319; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1116 & 1106.

Medit. element.

V. cymbalaria Bodard

E of Kırkpınar village, wet places, 680 m, 06.04.2003, M.Aydoğdu 1213/a.

Medit. element.

V. orientalis Mill. subsp. *orientalis*

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1035.

OROBANCHACEAE

Orobanche mutellii F.J.Schultz

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1438.

ACANTHACEAE

Acanthus syriacus Boiss.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1405.

Medit. element.

LAMIACEAE (LABIATAE)

Teucrium multicaule Montbret & Aucher ex Benth.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1398; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1160.

Ir.-Tur. element.

T. polium L.

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1510; NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1495.

Scutellaria tomentosa Bertol.

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1497.

Ir.-Tur. element.

Phlomis bruguieri Desf.

E of Kalecik mountain, near Yarımtepe village, roadside, 650-700 m, 08.06.2003, M.Aydoğdu 1475.

Ir.-Tur. element.

P. kurdica Rech.f.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1406; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1445; E of Kalecik mountain, near Yarımtepe village, roadside, 650-700 m, 08.06.2003, M.Aydoğdu 1474.

Ir.-Tur. element.

Lamium amplexicaule L.

NW of Korukezen village, stony places, 750 m, 08.03.2003, M.Aydoğdu 1184 & Akan; E of Kırkpınar village, wet places, 800 m, 06.04.2003, M.Aydoğdu 1205; N of Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1190.

Euro-Sib. element.

Ballota saxatilis Sieber ex J.Presl & C.Presl subsp. *saxatilis*

E of Kalecik mountain, near Yarımtepe village, roadside, 700 m, 08.06.2003, M.Aydoğdu 1479.

Medit. element.

Marrubium vulgare L.

District of Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1172; *ibid.*, 08.06.2002, M.Aydoğdu 1179.

***M. parviflorum** A.Fisch. & C.A.Mey. subsp. *parviflorum*

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1394, E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1434.

Ir.-Tur. element.

Stachys setifera C.A.Mey. subsp. *lycia* (Gand.) R.Bhattacharjee

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1428.

Endemic. Ir.-Tur. element.

S. burgsdorffioides (Benth.) Boiss. subsp. *burgsdorffioides*

E of Kırkpınar village, 600-650 m, 04.05.2003, M.Aydoğdu 1337.

Ir.-Tur. element.

***Cyclotrichum leucotrichum** (Stapf ex Rech.f.) Leblebici

SE of Kalecik mountain, limestone places, 750 m, 20.08.2003, M.Aydoğdu 1513.

Ir.-Tur. element.

Ziziphora capitata L.

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1340; *ibid.*, 25.05.2003, M.Aydoğdu 1470/b; near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1412; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1121.

Ir.-Tur. element.

Z. tenuior L.

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1378.

Ir.-Tur. element.

Salvia suffruticosa Montbret & Aucher ex Benth.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1430.

Ir.-Tur. element.

S. multicaulis Vahl

NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1095, 1093, 1103 & 1106; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1333; near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1404; near Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1154.

Ir.-Tur. element.

S. syriaca L.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1429.

Ir.-Tur. element.

***S. virgata** Jacq.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1397; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu

1144 & 1158; E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1427.

Ir.-Tur. element.

S. russellii Benth.

NE of Kırkpınar village, roadside, 850 m, 03.04.2002, M.Aydoğdu 1046 & 1047; NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1004, 1016 & Akan; N of Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1199; NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1235, 1249.

Ir.-Tur. element.

ARISTOLOCHIACEAE

Aristolochia bottae Jaub. & Spach

NW of Korukezen village, roadside, 780 m, 24.04.2003, M.Aydoğdu 1229.

Ir.-Tur. element.

EUPHORBIACEAE

Euphorbia microsphaera Boiss.

District of Kalecik, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1124.

Ir.-Tur. element.

E. aleppica L.

District of Kalecik village, steppe, 900 m, stony places, 23.05.2002, M.Aydoğdu 1161; *ibid.*, 08.06.2002, M.Aydoğdu 1176.

E. macroclada Boiss.

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1368; near Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1143; *ibid.*, 08.06.2002, M.Aydoğdu 1179; NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1489.

Ir.-Tur. element.

E. macrostegia Boiss.

SE of Kalecik mountain, stony places, 750 m, 20.08.2003, M.Aydoğdu 1515.

MORACEAE

Ficus carica L. subsp. *rupestris* (Hauskn.) Browicz

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1050.

Ir.-Tur. element.

SALICACEAE

Salix acmophylla Boiss.

E of Kırkpınar village, stony places, 500-850 m, 25.05.2003, M.Aydoğdu 1444.

Ir.-Tur. element.

RUBIACEAE

Asperula orientalis Boiss. & Hohen.

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1263.

Ir.-Tur. element.

Galium cassium Boiss.

E of Kırkpınar village, 600-650 m, stony places, 04.05.2003, M.Aydoğdu 1299.

Medit. element.

**G. aparine* L.

District of Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1146.

G. bracteatum Boiss.

NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1285, 1258/b, 1287.

Ir.-Tur. element.

Callipeltis cucullaria (L.) Steven

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1359.

Ir.-Tur. element.

Cruciata taurica (Pall. ex Willd.) Ehrend.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1012, 1013, 1014, 1011 & Akan; N of Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1198; NW of Korukezen village, stony places, 780 m, 24.04.2003, M.Aydoğdu 1236/b & 1278; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1293; near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1386.

Ir.-Tur. element.

MONOCOTYLEDONES

ARACEAE

Eminium spiculatum (Blume) Schott var. *spiculatum*

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1044.

Ir.-Tur. element.

E. rauwolfii (Blume) Schott var. *rauwolfii*

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1054.

Ir.-Tur. element.

LILIACEAE

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

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1149.

Medit. element.

Hyacinthella nervosa (Bertol.) Chouard

N of Korukezen village, stony places, 700 m, 06.04.2003, M.Aydoğdu 1197.

Ir.-Tur. element.

Gagea reticulata (Pall.) Schult. & Schult.f.

NW of Korukezen village, 700 m, stony places, 17.03.2002, M.Aydoğdu 1025 & Akan; *ibid.*, 06.04.2003, M.Aydoğdu 1191.

Ir.-Tur. element.

Ornithogalum oligophyllum E.D.Clarke

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1055.

Muscari neglectum Guss.

NW of Korukezen village, stony places, 700 m, 17.03.2002, M.Aydoğdu 1003 & Akan; N of Korukezen village, fields, 700 m, 06.04.2003, M.Aydoğdu 1194; NW of Korukezen village, stony places, 750-850 m, 14.04.2002, M.Aydoğdu 1090.

AMARYLLIDACEAE

Ixiolirion tataricum (Pall.) Herb. subsp. *tataricum*

E of Kırkpınar village, stony places, 600-650 m, 04.05.2003, M.Aydoğdu 1307.

Ir.-Tur. element.

IRIDACEAE

Iris persica L.

NW of Korukezen village, stony places, 750 m, 08.03.2003, M.Aydoğdu 1185 & Akan.

Ir.-Tur. element.

Crocus pallasii Goldb. subsp. *turcicus* B.Mathew

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1056, 1057.

C. cancellatus Herb. subsp. *damascenus* (Herb.) B.Mathew

NW of Korukezen village, stony places, 750 m, 08.03.2003, M.Aydoğdu 1183 & Akan.

Ir.-Tur. element.

**Gladiolus micranthus* Stapf

NW of Korukezen village, stony places, 750-780 m, 24.04.2003, M.Aydoğdu 1257.

Endemic. Medit. element.

POACEAE (GRAMINEAE)

Eremopyrum bonaepartis (Spreng.) Nevski subsp. *bonaepartis*

E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1347/b.

Ir.-Tur. element.

Aegilops triuncialis L. subsp. *triuncialis*

District of Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1120; E of Kırkpınar village, stony places, 600-650 m, 04.05.2003; near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1362, 1388/c, 1356 & 1389/a.

Triticum dicoccoides (Koern.) Koern.

District of Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1118/b.

Ir.-Tur. element.

Hordeum murinum L. subsp. *leporinum* (Link) Archer var. *leporinum*

Kalecik village, steppe, stony places, 900 m, 23.05.2002, M.Aydoğdu 1118/a.

H. bulbosum L. var. *bulbosum*

Near Korukezen village, limestone places, 600-700 m, 19.05.2003, M.Aydoğdu 1379; near Kalecik village, stony places, 900 m, 23.05.2002, M.Aydoğdu 1110.

H. spontaneum C.Koch.

E of Kırkpınar village, stony places, 650 m, 04.05.2003, M.Aydoğdu 1298/b.

Ir.-Tur. element.

Bromus japonicus Thunb. subsp. *japonicus*

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1389/b.

B. sterilis L.

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1388/b.

Avena sterilis L. subsp. *sterilis*

Near Korukezen village, limestone places, 700 m, 19.05.2003, M.Aydoğdu 1388/a; near Kalecik, stony places, 900 m, 23.05.2002, M.Aydoğdu 1119.

***Phleum pratense** L.

E of Kırkpınar village, steppe, 650 m, 04.05.2003, M.Aydoğdu 1317.

Euro.-Sib. element.

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

Near Kalecik village, steppe, 900 m, 23.05.2002, M.Aydoğdu 1163 & 1131.

Medit. element.

Poa bulbosa L.

NE of Kırkpınar village, roadside, 800-850 m, 03.04.2002, M.Aydoğdu 1033/b.

Melica ciliata L. subsp. *ciliata*

NW of Korukezen village, stony places, 750-850 m, 08.06.2003, M.Aydoğdu 1501.

Discussion

After the identification of the specimens and the collection of all relevant data the floristic data of Kalecik mountain were obtained. The research was carried out over 2 years. During the floristic study, 516 plant specimens belonging to 39 families, 140 genera, and 238 taxa were collected. All of the 238 taxa belonged to the division Spermatophyta. The subdivision Gymnospermae was not recorded from the research area. On the other hand, 25 taxa of Angiospermae belonged to Monocotyledones, while the rest (213 taxa) belonged to Dicotyledones.

The total number of endemic taxa is 13 (5.46%). The endemism rate is 2.4% for Ceylanpınar State Farm (Adigüzel & Aytaç, 2001), and 5.79% for Karacadağ mountain (Ertekin, 2002). The low altitude of the research area and the majority of the land being cultivated are reasons for the low endemism rate on Ceylanpınar State Farm. The endemism rates of Karacadağ mountain and Ceylanpınar State Farm are parallel to that of our research area. Among the endemic plants in our research area, *Astragalus mardinensis* is known only from C8, *A. scabrifolius* is known only from B6, *Hypericum capitatum* var. *capitatum* is known only from C6, C7 and C8, and *Alkanna megacarpa* is known only from B6, B7 and C6, while *Astragalus nervulosus* has a scattered distribution. These endemic plants are generally local for the south and south-east Anatolia regions and are localised around the Anatolian Diagonal (Ekim & Güner, 1986). As regards endemism, South-east Anatolia is the poorest region in Turkey. In fact its climatic, topographic and ecological features are homogeneous, and most plants which grow in the northern parts of Syria and Iraq grow there as well. Therefore, the endemism rate in our collection is not high, but some non-endemic plants have restricted ranges, namely *Capparis ovata* var. *palaestina*, *Alcea apterocarpa*, *Geranium tuberosum* subsp. *desertisyriacum*, *Astragalus aleppicus*, *A. russelii*, *Vicia assyriaca*, *Trigonella mesopotamica* and *Silene coniflora*.

In the distribution of the species according to floristic regions, Irano-Turanian elements ranked first with 39.07%, followed by Mediterranean elements (8.40%) and Euro-Siberian elements (1.68%). Some 19.75% of the determined species are widespread while 31.93% of the taxa are multi-regional, or of unknown phytogeographic region. The vast number of Irano-Turanian elements can be explained by the fact that the research area lies wholly within the Irano-Turanian phytogeographic region. It shows that Irano-Turanian steppic plants have a widespread distribution in our research area. Moreover, Irano-Turanian elements are abundant, with a rate of 29.9% on Ceylanpınar State Farm (Adigüzel & Aytaç, 2001), a rate of 31.9% on the Tektik mountains (personal communication with Kaya), a rate of 22.2% around Birecik Dam Lake (personal communication with Aslan), a rate of 22.6% around Karkamış Dam Lake (personal communication with Türkmen) and a rate of 35% on Karacadağ mountain

(Ertekin, 2002).

Concerning the number of taxa, Fabaceae is the largest family in the research area, with 56 taxa. Following Fabaceae, Asteraceae is represented by 25 taxa, Lamiaceae by 19, Brassicaceae by 14, Apiaceae by 14 and Poaceae by 13. Fabaceae is also the most common family on Karacadağ (Ertekin, 2002), on Ceylanpınar State Farm (Adigüzel & Aytaç, 2001) and on the Tektek mountains (personal communication with Kaya). On the other hand, the family Asteraceae ranks first in a floristic survey of the Karkamış Dam area (personal communication with Türkmen). It may be concluded that the area is parallel to the Flora of Turkey since Fabaceae is the second richest family in Turkey. In most floristic studies, Fabaceae and Asteraceae are the 2 richest families in the Flora of Turkey. This can be explained by the diversity of vegetation types, soil construction, climatic conditions and topography.

Concerning the number of species, the richest genera in this region are as follows: *Astragalus* (11), *Vicia* (10), *Trifolium* (8), *Trigonella* (6), *Medicago* (6) and *Salvia* (5). The genera with the highest number of taxa vary slightly among studies. In our study, the genus *Astragalus* ranks first due to ecological factors, and the habitat of the species, which are known as steppic plants of Irano-Turanian phytogeographic regions. The genus *Astragalus* ranks first on Ceylanpınar State Farm (Adigüzel & Aytaç, 2001), but the genus *Trifolium* ranks first on Karacadağ (Ertekin, 2002) and the Tektek mountains (personal communication with Kaya). Although *Astragalus* includes the highest number of species in Turkey and features prominently in steppe regions of Irano-Turanian phytogeographic regions, it is not well represented in habitats in some study areas.

According to the IUCN Red Data Book categories (Ekim et al., 2000; IUCN Species Survival Commission, 2001), *Astragalus scabrifolius* is CR; *Hypericum capitatum* var. *capitatum*, *Astragalus nervulosus*, *Astragalus mardinensis* and *Gladiolus micranthus* are VU;

and *Papaver clavatum*, *Alcea apterocarpa*, *Astragalus suberosus* subsp. *ancyleus*, *Onobrychis armena*, *Tanacetum argenteum* subsp. *argenteum*, *Onosma isauricum*, *Alkanna megacarpa* and *Stachys setifera* subsp. *lycia* are LC. The populations of endemic plants in the research area have been extensively destroyed by anthropogenic effects; therefore, plants try to survive under unsuitable conditions. Natural habitats have been destroyed by the construction of dams and tunnels for the irrigation of plains. Therefore, the biological diversity, especially endemic plants, has been affected by the GAP project.

Of all the collected specimens, 28 taxa are new records for the C7 square (Davis (ed), 1965-1985; Davis et al. (eds.), 1988; Donner, 1990; Yıldırım, 1992, 1994; Yıldız & Aktoklu, 1996; Ertekin & Saya, 1997; Adigüzel & Aytaç, 2001; Aslan & Türkmen, 2001, 2003; Ertekin, 2002; Türkmen et al., 2002).

The area is one of the richest places of genetic resources for wheat and edible legumes. Some cultivated plants such as *Triticum durum* Desf., *T. turgidum* L., *T. aestivum* L., *Lens culinaris* Medik., *Pisum sativum* L., and *Medicago sativa* L. are common.

Juglans regia L., *Vitis vinifera* L., *Morus nigra* L., *Ficus carica* L. and *Pistacia vera* L. are examples of woody plants cultivated in the region.

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