

Endemic Plants and Their Threat Categories of Muğla Province (Turkey)

Muğla İli Endemik Bitkileri ve Tehlike Kategorileri (Türkiye)

Research Article

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ABSTRACT

This study aimed to identify endemic plants distributed in Muğla province (Western Mediterranean region of Turkey), which is in the C1 and C2 squares according to P.H. Davis. The results of the botanical investigations have been performed so far showed that 414 endemic taxa within 161 genera of 45 families were distributed in Muğla province. 40.6% (168 taxa) of these were reported for the first time as new taxa. While 300 (72.5%) of the endemic taxa, distributed in Muğla province, are the members of Mediterranean phytogeographic region, 26 taxa (6.3%), 2 taxa (0.4%) and 1 taxon (0.2%) of them are belong to Irano-Turanian, Euxine and Euro-Siberian phytogeographic regions, respectively. The remaining 85 taxa (20.6%) are widely distributed or not to be specified to any phytogeographic region. While the families rich in endemic taxa are Asteraceae (51 taxa), Lamiaceae (50 taxa), Caryophyllaceae (42 taxa), Scrophulariaceae (31 taxa) and Liliaceae (30 taxa), the genus rich in endemic taxa are *Verbascum* (21 taxa), *Centaurea* (17 taxa), *Crocus* (11 taxa), *Astragalus* (10 taxa), *Silene* (10 taxa) and *Arenaria* (10 taxa). According to the threat categories assigned by IUCN in Red Data Book of Turkish Plants, the 47.1% (195 taxa), 15.2% (63 taxa), 13.8% (57 taxa), 11.6% (48 taxa), 11.4% (47 taxa) and 0.5% (2 taxa) of the endemic taxa distributed in Muğla province are categorized as LC, EN, VU, CR, NT and DD respectively.

Key Words

Endemism, Conservation, Threat categories, Muğla, Turkey.

ÖZET

Bu çalışma, P.H.Davis'e göre C1 ve C2 karelerinde bulunan Muğla İli sınırları içerisinde yayılış gösteren endemik bitkileri ortaya koymayı amaçlamaktadır. Araştırmalar sonucunda Muğla İli'nde yayılış gösteren 45 familyaya ait 161 cins ve 414 endemik takson belirlenmiştir. Bu taksonlardan %40.6'sı (168 takson) ilk defa araştırma alanından tanımlanmıştır. Endemik taksonların 300'ü (%72,5) Akdeniz, 26'sı (%6.3) İran-Turan, 2'si (%0.4) Öksin ve 1'i (%0.2) Avrupa-Sibirya fitocoğrafik bölgesine aittir. Geriye kalan 85 takson (%20.6) ise geniş yayılışlı ya da fitocoğrafik bölgesi bilinmemektedir. Endemik taksonlar içerisinde en zengin familyalar sırasıyla; Asteraceae (51 takson), Lamiaceae (50 takson), Caryophyllaceae (42 takson), Scrophulariaceae (31 takson) ve Liliaceae (30 takson)'dir. En zengin cinsler ise sırasıyla; *Verbascum* (21 takson), *Centaurea* (17 takson), *Crocus* (11 takson), *Astragalus* (10 takson), *Silene* (10 takson) ve *Arenaria* (10 takson)'dir. Türkiye Bitkileri Kırmızı Kitabı'ndaki IUCN tehlike kategorilerine göre araştırma alanında yayılış gösteren endemik taksonların %47.1'i (195 takson) LC, %15.2'si (63 takson) EN, %13.8'i (57 takson) VU, %11.6'sı (48 takson) CR, %11.4'ü (47 takson) NT ve %0.5'i (2 takson) DD kategorisindedir.

Anahtar Kelimeler

Endemizm, Koruma, Tehlike Kategorileri, Muğla, Türkiye.

Article History: Received November 20, 2011; Revised February 3, 2012; Accepted February 11, 2012; Available Online: April 30, 2012.

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INTRODUCTION

Muğla province, which is in the Mediterranean phytogeographic region, is in the C1 and C2 squares according to Davis grid system [1]. Muğla has the 1124 km shoreline in the Aegean and Mediterranean Sea region of Turkey. Geographic coordinates of Muğla are 36°17'-37°33' north latitudes and 27°13'-29°46' east longitudes. The acreage of this area is 13.338 km². The 77% of the province are mountainous [2].

Despite the poor vegetation cover, plant diversity of Muğla is very rich. The first reason for this is based on the geological history of Muğla province. Almost every geological period could be traced in the province of Muğla. Bedrock was formed a very chalky marl and limestone in II. and III. times. The second reason is that area is surrounded by the mountains. This makes the research area consisted of more or less different microclimates which differentiated from neighboring provinces. Diversity of soil structure is another reason. In research area, major soil groups compose of alluvial and colluvial soils, brown forest soils, red Mediterranean soils and rendzina soils [3].

In research area, Mediterranean climate is effective. In addition to effect of the sea, altitude and direction of landforms plays a major role on climate. While the areas up to 800 m. "the real mediterranean climate" is effective, the areas higher than 800 m. "mediterranean mountain climate" is effective [4]. In Muğla which is in the mediterranean climate zone, winters are mild and rainy, summers are hot and dry. The settlements in the coastal area of the province due to its geographic location are effective the Mediterranean climate. The characteristics of the Mediterranean climate are felt especially in the center of Muğla province [5].

There are 9 important plant areas in Muğla as Batı Menteşe Mountains, Gököy, Bozburun and Datça Peninsulas, Köyceğiz Lake and Dalyan, Dalaman plateaus, Baba Mountain, Patara and Gelemiş Plateaus, Sandras and Doğu Boncuk Mountain [6] and 16 important Natural Areas are Bodrum Yarımadası, Datça ve Bozburun Yarımadaı, Akbük Kıyıları, Gökova Kuzey Kıyıları, Bafa Gölü, Batı Menteşe Dağları, Güllük Körfezi, Sandras Dağı, Köyceğiz Gölü, Dalaman Ovası,

Fethiye, Baba Dağı, Patara, Doğu Boncuk Dağları, Girdev Gölü and Akdağlar [7]. Moreover, 2 natural parks are Saklıkent NP and Marmaris NP.

Furthermore, there are 51 endemic taxa whose scientific names are related to Muğla (Table 1).

MATERIAL AND METHODS

"Endemic Plants of Muğla Province (Turkey)" of the study was presented as a poster on Biorare (International Symposium on Biology of Rare and Endemic Plant Species) symposium in 2010 [8]. In this study, previous data was evaluated by up-to-date and detailed literatures.

In this study, "Flora of Turkey and The East Aegean Islands" and recent literatures were investigated to establish the most recent studies about the province and reviewed. [9-41]. We focused on the plants, type specimens of which were collected from Muğla, threat categories and the plants which are categorized as rare and local endemic. According to our survey, distribution of endemic taxa from different phytogeographic regions and the families and the genera rich of endemic taxa were shown in tables and graphics. Conservation status of taxa were also reported according to Red Data Book of Turkish Plants [42] and revised according to IUCN Red List Categories [43].

The following abbreviations are used in the text:

E: East
Euro-Sib.: Euro-Siberian
Ir-Tur.: Irano-Turanian
Medit.: Mediterranean
m: metre
ssp.: subspecies
var.: variety
LC: Least concern
NT: Near threatened
VU: Vulnerable
EN: Endangered
CR: Critically endangered
DD: Data deficient

The list of endemic plants in Muğla province:

This endemic plant list of Muğla province was

Table 1. The scientific names of 51 endemic taxa, meaning of which are related to Muğla.

<i>Acantholimon koeycegizicum</i> Doğan&Akaydin	<i>Genista sandrasica</i> Hartvig & Strid
<i>Arenaria cariensis</i> A.Carlström	<i>Iberis carica</i> Bornm.
<i>Astragalus mugliensis</i> Podlech & Ekici	<i>Lamium sandrasicum</i> P.H.Davis
<i>Asyneuma babadaghensis</i> Yıldız&Kit Tan	<i>Lavandula stoechas</i> L. subsp. <i>cariensis</i> (Boiss.) Rozeira
<i>Alkanna mughlae</i> Güner, H.Duman&Şağban	<i>Linum carienne</i> Boiss.
<i>Allium fethiyense</i> Özhatay & B.Matthew	<i>Minuartia recurva</i> (All.) Schinz & Thell. subsp. <i>carica</i> McNeill
<i>A. sandrasicum</i> Kollman, Özhatay & Bothmer	<i>Muscari sandrasicum</i> Karlen
<i>Alyssum caricum</i> Dudley & Hub.-Mor.	<i>Paronychia mughlaei</i> Chaudhri
<i>A. mughlaei</i> Orcan	<i>Onopordum caricum</i> Hub.-Mor.
<i>Astragalus cariensis</i> Boiss.	<i>Phlomis carica</i> Rech. fil.
<i>Bellardiochloa carica</i> R.Mill	<i>Pilosella sandrasica</i> Hartvig & Strid
<i>Biarum davisii</i> Turrill subsp. <i>marmariensis</i> P.C.Boyce	<i>Roemeria carica</i> A.Baytop
<i>Carex cilicica</i> Boiss. subsp. <i>muglaica</i> Ö.Nilsson	<i>Scorzonera karabelensis</i> Parolly & Kilion
<i>Centaurea cariensis</i> Boiss. subsp. <i>Cariensis</i>	<i>S. sandrasica</i> Hartvig & Strid
<i>C. cariensis</i> Boiss. subsp. <i>maculiceps</i> (O. Schwarz) Wagenitz	<i>Sedum eriocarpum</i> Sibth. & Sm. subsp. <i>caricum</i> (Carlström) 't Hart
<i>C. cariensis</i> Boiss. subsp. <i>microlepis</i> (Boiss.) Wagenitz	<i>Senecio sandrasicus</i> P.H.Davis
<i>C. cariensis</i> Boiss. subsp. <i>niveotomentosa</i> (Hub.-Mor.) Wagenitz	<i>Silene cariensis</i> Boiss. subsp. <i>muglae</i> Vural & Dönmez
<i>Crocus biflorus</i> Miller subsp. <i>caricus</i> Kernd. & Pasche	<i>S. köycegizensis</i> Dönmez & Vural
<i>C. biflorus</i> Miller subsp. <i>yataganensis</i> Kernd. et Pasche	<i>Teucrium sandrasicum</i> O.Schwarz
<i>Digitalis cariensis</i> Boiss. ex Jaub. et Spach	<i>Thlaspi carienne</i> A.Carlström
<i>Erysimum caricum</i> Boiss.	<i>Thymus cariensis</i> Hub.-Mor. & Jales
<i>Ferulago mughlae</i> Peşmen	<i>Trigonella carica</i> Hub.-Mor.
<i>F. sandrasica</i> Peşmen & Quézel	<i>Verbascum carienne</i> Hub.-Mor.
<i>Fritillaria carica</i> Rix subsp. <i>Carica</i>	<i>V. dalamanicum</i> Hub.-Mor.
<i>F. milasense</i> Tekşen & Aytaç	<i>Viola dirimliensis</i> Blaxland
<i>F. mughlae</i> Tekşen & Aytaç	

listed according to the Flora of Turkey. The ones which are found after the literature search were added and pointed out with its reference. The lists of family and species were in alphabetic order. The authorities were cited using Author of Plant Names [44].

◆: rare and local endemic

DICOTYLEDONAE

ACANTHACEAE

Acanthus hirsutus Boiss., **LC.**

ACERACEAE

◆***Acer undulatum*** Pojark., **E. Medit., EN.**

Type: C2 Muğla: vil. Muğla (Lycia), Babadagh (Fethiye [sic]) above Akbel yayla, 30 vii 1947, P.H. Davis 13685 (holo. E! iso. LE).

APIACEAE (UMBELLIFERAE)

◆***Bupleurum anatolicum*** Hub.-Mor. & Reese, **E. Medit., NT.**

Eryngium kotschyi Boiss., **E. Medit., LC.**

◆***E. pseudothoriifolium*** Contandr. & Quézel, **E. Medit., VU.**

Type: C2 Muğla: terrain marneux dans la haute vallée du Koça Çay á une trentaine de kilomètres au N.-E. de Fethiye [sic], 100 m., 22 vi 1973, P. Quézel & Contandr. 73-60 (holo. MARS).

E. thorifolium Boiss., **E. Medit., LC.**

Ferulago humilis Boiss., **E. Medit., LC.**

◆***F. muğlae*** Peşmen, **E. Medit., LC.**

Type: C2 Muğla: Muğla-Fethiye, felsige Macchie 120 km. südöstlich Muğla, 20 m., 20 vi 1954, Hub.-Mor. 14676 (holo. Hub.-Mor.!).

◆***F. sandrasica*** Peşmen & Quézel, **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, rocailles, 2000 m., Contandr., A. Pamukçuoğlu, P. Quézel (holo. E! iso. MARS).

Laserpitium petrophilum Boiss. & Heldr., **E. Medit., NT.**

Microsciadium minutum Briq., **E. Medit., VU.**

◆***Oenanthe cyclocarpa*** Pimenov & Kljuykov, **E. Medit., EN.**

Type: C2 Muğla: near Köyceğiz, lake shore, *Liquidambar* forest E. of Köyceğiz, 36°57'N, 28°41'E, 120 m., 23 viii 1996, N T96-273, Pimenov & Kljuykov (holo. W, iso. LE, photo!).

Peucedanum chryseum (Boiss. & Heldr.) D.F. Chamb., **LC.**

Scandix balansae Reuter ex Boiss., **VU.**

◆***Tordylium ebracteatum*** Al-Eisawi & Jury, **E. Medit., CR.**

Type: C2 Muğla: Bozburun, limestone sea-cliffs just before entrance of Bozburun harbour, 50-100 m., 8 vi 1962, Dudley in D. 35477 (holo. E).

T. lanatum (Boiss.) Boiss., **E. Medit., VU.**

Type: C2 in Caria, 1843, Pinard (G!).

T. pestalozzae Boiss., **E. Medit., VU.**

ARACEAE

Arum dioscoridis Sibth. & Sm. var. ***spectabile*** (Schott) Engler, **E. Medit., NT** [15].

◆***Biarum davisii*** Turrill subsp. ***marmariensis*** P.C. Boyce, **E. Medit., EN.**

Type: C2 Muğla: Marmaris, Bozburun, Taşlıca Kö., T. Baytop & al. (holo. EGE 8796 iso. [spirit] K).

B. tenuiflorum (L.) Schott var. ***zeleborii*** (Schott) Engler, **E. Medit., LC.**

ARISTOLOCHIACEAE

◆***Aristolochia guichardii*** P.H. Davis et Khan, **E. Medit., VU.**

Type: C2 Muğla: (Caria) Ula, 610 m. to nearly sea level, shade of bushes, flowers maroon, very common, 16 iv 1962, K. M. Guichard TUR/52/1962 (holo. E! iso. K!).

A. hirta L., **E. Medit., LC.**

◆***A. poluninii*** P.H. Davis & Khan, **E. Medit., LC.**

Type: C2 Muğla: d. Fethiye, Baba Dağı, c. 600 m., *Pinus brutia* forest, flowers brown?, 26 v 1976, O. Polunin 14036 (holo. E!).

ASCLEPIADACEAE

Vincetoxicum canescens (Willd.) Decne. subsp. ***pedunculata*** Browicz, **E. Medit., VU.**

ASTERACEAE (COMPOSITAE)

Achillea nobilis L. subsp. ***densissima*** (O.Schwarz ex Bässler) Hub.-Mor., **E. Medit., LC.**

Type: C2 Muğla: Çaldağ, in pascuis jugi Kirkpınar, solo serpent., c. 1600 m., 7 vii 1938, O. Schwarz 380 (holo. JE!).

A. teretifolia Willd., **Ir.-Tur., LC.**

Amphoricarpos exsul O.Schwarz, **E. Medit., EN.**

Type: C2 Muğla: ad rupes verticales dolomiticas montis Maşda Dağ, supra pagum Maşda Köy, 1800-2000 m., O.Schwarz 716 (JE).

Anthemis aciphylla Boiss. var. ***aciphylla***, **E. Medit., LC.**

◆***A. cuneata*** Hub.-Mor. & Reese, **E. Medit., EN.**

Type: C2 Muğla: Lycien, Fethiye-Dirmil, an der Grenze gegen Pisidien, westlich des Haçi Osman Dagh, 51 km. ob Fethiye (Makri), 1000 m., 8 vi 1938, Huber-Morath 5663 (holo. Hb. Hub.-Mor. iso. E!).

◆***A. karacae*** Güner, **E. Medit., CR.**

Type: C2 Muğla: Köyceğiz, Ekincik Köyü, *Pinus*

brutia forest, on serpentine, 0-40 m., 17 iv 1991, A. Güner 8764a-M. Vural, H. Duman, A. A. Dönmez & B. Mutlu (holo. AIBU! iso GAZI!, E!).

A. rosea Sm. subsp. **carnea** (Boiss.) Grierson, **E. Medit., LC.**

Type: C1/2 in Caria, Pinard (holo. G!).

Carduus rechingeranus Kazmi, **E. Medit., LC.**

Carlina oligocephala Boiss. et Kotschy subsp. **pallascens** (Wettst.) Meusel et Kästner, **E. Medit., VU.**

Centaurea acicularis Sm. var. **urvillei** Boiss., **E. Medit., VU.**

♦**C. austro-anatolica** Hub.-Mor., **E. Medit., LC.**

Type: C2 Muğla, Distr. Köyceğiz, Muğla-Fethiye, *Cistus*-Macchie im *Pinus brutia*, Gehölz 9-11 km. nach Karabörtlen, 47-49 km. südöstlich von Muğla, 70-80 m., 20 vi 1954, A. Huber-Morath 12228 (holo. Hb. Hub.-Mor. iso. E).

C. cadmea Boiss., **LC** [16].

C. calolepis Boiss., **E. Medit., LC.**

Type: C2? Caria, 1843, Pinard (G! GOET! W!).

C. cariensis Boiss. subsp. **cariensis**, **E. Medit., VU.**

Type: C1/2 Caria, 1843, Pinard (holo. G!).

C. cariensis Boiss. subsp. **maculiceps** (O. Schwarz) Wagenitz, **E. Medit., LC.**

C. cariensis Boiss. subsp. **microlepis** (Boiss.) Wagenitz, **E. Medit., NT.**

♦**C. cariensis** Boiss. subsp. **niveotomentosa** (Hub.-Mor.) Wagenitz, **E. Medit., EN.**

Type: C2 Muğla: distri. Fethiye, Fethiye-Dirmil, *Pinus pallasiana*-Wald auf Kalkmergelwestlich des Haçi Osman Dagh, 51 km. nördlich von Fethiye, 26 km. nördlich von Kemer, 1000 m., 8 vi 1938, A. Huber-Morath 5642 (holo. Hb. Hub.-Mor.!).

C. dichroa Boiss. & Heldr., **E. Medit., LC.**

C. drabifolia Sm. subsp. **austro-occidentalis** Wagenitz, **LC.**

C. drabifolia Sm. subsp. **cappadocica** (DC.) Wagenitz, **LC.**

♦**C. ensiformis** Hub.-Mor., **E. Medit., VU.**

Type: C2 Muğla: Distr. Köyceğiz (Caria), Sandras Da. Above Ağla, nr Gökçe Ova, 1700 m., on serpentine in open *Pinus nigra* subsp. *pallasiana* forest, 23 vii 1947, P.H. Davis & Bilger [Karamanoğlu], D. 13510 (holo. E! iso. GOET! K).

C. hierapolitana Boiss., **E. Medit., VU.**

Type: in Caria, 1843, Pinard (BM! G, GOET! W!).

C. inexpectata Wagenitz, **Euxine, LC.**

C. mathiolifolia Boiss., **Ir.-Tur., VU.**

Type: C2? Caria, 1843, C. Pinard (holo. G! iso. BREM! G! GOET!).

C. mykalea Hub.-Mor., **E. Medit., CR** [16].

C. reuterana Boiss. var. **reuterana**, **E. Medit., LC.**

Type: C2/3 Caria, 1843, Pinard (holo. G!).

Cirsium dirmilense R. M. Burton, **E. Medit., LC.**

C. libanoticum DC. subsp. **lycaonicum** (Boiss. & Heldr.) P.H. Davis & Parris, **E. Medit., LC.**

C. sintenisii Freyn, **NT.**

C. sipyleum O. Schwarz, **E. Medit., NT.**

Echinops emiliae O. Schwarz ex P.H. Davis, **E. Medit., LC.**

Type: C2 Muğla: dist. Fethiye, Baba Dağ, 1600-1800 m., screes above cedars, 30 vii 1947, P.H. Davis & Bilger [Karamanoğlu], D. 13651 (holo. K! iso. E!).

Erigeron cilicicus Boiss. ex Vierh., **E. Medit., LC.**

Hieracium artabirens (Zahn) Üksip, **Euxine, LC.**

Inula anatolica Boiss., **LC.**

Type: C2 Denizli: in rupium aquarium thermalium Hierapolis (Pamukkale) Cariae, Junio 1842, Boiss. (iso. K!).

I. sechmenii Hartwig & Strid, **E. Medit., CR** [17].

Jurinea pontica Hausskn. & Freyn ex Hausskn., **Ir.-Tur., LC** [17].

Matricaria macrotis Rech., **E. Medit., EN.**

♦**Onopordum caricum** Hub.-Mor., **Medit., NT.**

Type: C2 Muğla: Muğla-Köyceğiz, ausgetrocknetes Bachbet 7 km. nordwestlich von Köyceğiz s.l., Huber-Morath 15974 (holo. Hb. Hub.-Mor. iso. E!).

♦**Pilosella sandrasica** Hartwig & Strid, **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, S.W. foothills, c. 4 km. S.W. of the village of Ağla, 500 m., opening in *Pinus brutia* forest, serpentine, lat. 37°03'N, long. 28°47'E, 6 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23256 (holo. C, iso. E! EGE, G).

Ptilostemon afer (Jacq.) Greuter subsp. **eburneus** Greuter, **LC.**

♦**Scorzonera argyria** Boiss., **DD.**

Type: in Caria, 1843, Pinard (holo. G!).

S. eriophora DC., **LC.**

♦**S. karabelensis** Parolly & N.Kilian, **E. Medit., VU** [18].

Type: C2 Muğla: Fethiye-Korkuteli road, below Karabel Gecidi NE Kemer, 1040 m, steep, gravelly, rocky slope, open *Pinus nigra* var. *caramanica* forest, Nexp., limestone, 20 v 2003, R. Ulrich 3/7 a (holo. B; iso. E, ISTE, herb. Parolly).

♦**S. sandrasica** Hartwig & Strid, **E. Medit., VU.**

Type: C2 Muğla: Sandras Dağ, W. of the summit, 1970 m., slightly sloping stony flat (snowbed) near a small creek close to timberline, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23342 (holo. C, iso. E! EGE).

***S. tomentosa* L., Ir.-Tur., LC [19].**

♦***Senecio sandrasicus* P.H. Davis, E. Medit., LC.**

Type: C2 Muğla: dist. Köyceğiz (Caria), Sandras Dağ above Ağla, 1300 m., 22 vii 1947, P.H. Davis & Bilger [Karamanoğlu], D. 13561 (holo. E! iso. K!).

***Tanacetum praeteritum* (Horw.) Heywood subsp. *praeteritum*, E. Medit., LC.**

***T. praeteritum* (Horw.) Heywood subsp. *massicyticum* Heywood, E. Medit., LC.**

Type: C2 Muğla: Girdev Dağ, S. side, 2000 m., 8 viii 1947, P.H. Davis 13827 (holo. K! iso. E!).

***Taraxacum aznavourii* Soest, DD [19].**

♦***Tragopogon oligolepis* Hartvig & Strid, E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, W. of the summit, 1970 m., slightly sloping stony flat (snowbed) near a small creek close to timberline, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23341 (holo. C).

***T. olympicus* Boiss., E. Medit., LC.**

BETULACEAE

***Alnus orientalis* Decne. var. *pubescens* Dippel, E. Medit., LC.**

BORAGINACEAE

***Alkanna areolata* Boiss. var. *areolata*, E. Medit., LC.**

***A. incana* Boiss., E. Medit., LC.**

Type: C2 in fissuris rupium Cariae, 1843, Pinard (holo. G!).

***A. kotschyana* DC., E. Medit., LC [19].**

***A. macrosiphon* Boiss. & Heldr., E. Medit., LC.**

♦***A. mughlae* Güner, H. Duman & Şağban, E. Medit., EN.**

Type: C2 Muğla: Ortaca, Dalyan, İztuzu, 5-20 m., on limestone cliffs, 16 iii 1991, A. Güner 8128-H. Duman & H. Şağban (holo. GAZI!, iso. E! HUB! AIBU!).

***A. pinardii* Boiss., E. Medit., EN.**

Type: C2 in Caria interiori, 1842, Pinard (holo. G!).

***A. tinctoria* (L.) Tausch subsp. *glandulosa* Hub.-Mor., E. Medit., NT [20].**

***A. tubulosa* Boiss., E. Medit., LC.**

***Nonea stenolen* Boiss. & Balansa, Ir.-Tur., LC [19].**

***Omphalodes luciliae* Boiss. subsp. *luciliae*, E.**

Medit., NT [21].

***Onosma nanum* DC., E. Medit., LC.**

***Paracaryum aucheri* (A. DC.) Boiss., E. Medit., LC.**

Type: C2 Muğla: Moglah, Aucher 2285 (holo G-DC, photo! iso. K!).

***Symphytum anatolicum* Boiss., E. Medit., LC [15].**

BRASSICACEAE (CRUCIFERAE)

♦***Aethionema speciosum* Boiss. & Huet subsp. *compactum*, E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, W. Of the summit, 1970 m., slightly sloping stony flat (snowbed) near a small creek close to timberline, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23339 (holo.C, iso. E! EGE, G).

♦***Alyssum caricum* Dudley & Hub.-Mor., E. Medit., EN.**

Type: C2 Muğla: Muğla to Fethiye, Kalkgeröll linkes Ufer des Namlam Çay, 42 km. sudostlich Muğla, 100 m., 20 vi 1954, Huber-Morath 12824 (holo. Hb. Hub.-Mor.! iso. A! E!).

***A. discolor* Dudley & Hub.-Mor., E. Medit., VU.**

***A. giosnanum* Nyar., NT.**

***A. hirsutum* Bieb. var. *caespitosum* Dudley, Ir.-Tur., NT [17].**

***A. lepidotum* Boiss., LC.**

***A. masmenaeum* Boiss., LC.**

♦***A. mughlae* Orcan, CR [22].**

Type: C2 Muğla: Marmaris-Muğla, 10 km to Marmaris, 52 km to Muğla, roadside, serpentine, 100 m, 06 v 1993, N. Orcan 750 (holo. Hb of Mersin University).

***A. propinquum* Boumg., LC.**

***A. pterocarpum* Dudley, E. Medit., VU.**

***Aubrieta canescens* (Boiss.) Bornm. subsp. *canescens*, LC.**

***Aurinia rupestris* (Tenore) Cullen & Dudley subsp. *cyclocarpa* (Boiss.) Cullen & Dudley, NT [21].**

♦***Barbarea minor* C. Koch var. *anfractuosa* Hartvig & Strid, E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, W. Side of the summit area, 2100-2300 m., snowbed meadows and rocky slopes, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23347 (holo. C. iso. E! EGE, G).

***Clypeola ciliata* Boiss., EN [21].**

♦***Erysimum caricum* Boiss., E. Medit., CR.**

Type: C2 Muğla: Moglah (Muğla), Aucher 160.

***E. kotschyanum* Gay, LC.**

◆***E. serpenticum*** Polatschek, **E. Medit., CR** [14].

Type: Turkey, C1 Muğla: 28 km W Marmaris, 150 m, vulkanisches Gestein, 10.iv.1982, **F.Sorger** & **Buchner** Nr. 82-19A-1 (holo. W 1982-11159, iso. W 2004-00081).

◆***E. vuralii*** Yıld., **E. Medit., CR** [14].

Type: Turkey, C2 Muğla: Koyceğiz, Hamitkoy, Hamitkoy-Ekincik arası, kuzey yamac, kızılcam ormanı, başkalaşımli taşlı yerler, 75 m, 12.iv.2008, **Ş.Yıldırımli** 34600 & **Görkem Yıldırımli** (holo. Hb. Yıldırımli, iso. ANK, B, EGE, G, GAZI, HUB, ISTE, K, KNYA, UPA, VANF, W, Hb. PAROLLY).

◆***Hesperis varolii*** A. Duran, **E. Medit., EN** [23].

Type: Turkey, C2 Muğla: Gokova- Marmaris yolu, Marmaris'in gorunduğu tepeden sola, 5.km, 27.iv.2002, 500-600 m, 36°53.76'N, 28°17.95'E, **A. Duran** 5847 & **Varol** (holo. KNYA, iso. ANK, E, GAZI, HUB, Hb. Yıldırımli).

Iberis carica Bornm., **E. Medit., NT**.

◆***Isatis pinnatiloba*** P.H. Davis, **E. Medit., LC**.

Type: C2 Muğla: limestone sea cliffs just before entrance to Bozburun harbour, 50-100 m., Dudley (D. 35472 holo. E!, iso. K!, BM!).

Ricotia carnosula Boiss. & Heldr., **E. Medit., LC**.

R. sinuata Boiss. & Heldr., **E. Medit., LC** [16].

◆ ***Thlaspi cariense*** A. Carlström, **E. Medit., EN**.

Type: C2 Muğla: 1 km. E. of Marmaris. In pine forest on serpentine, 19 iv 1983, Carlström 9293 (holo. LD).

◆***T. leblebicii*** Gemici & Görk, **E. Medit., EN**.

Type: C2 Muğla: Köyceğiz, summit of Sandras Dağı, rocky peridotite slopes, 2000-2100 m., 7 vi 1992, Y. Gemici 6656 & al. (holo. EGE!).

CAMPANULACEAE

◆***Asyneuma babadaghensis*** Yıldız & Kit Tan, **E. Medit., EN**.

Type: C2 Muğla: distr. Fehiye, Baba Dağ, above Akbel Y., vertical rocks, 1670 m., 30 vii 1947, P. H. Davis 13674 (holo. E!; photo. B, RSA).

A. limonifolium (L.) Janchen subsp. ***pestolazae*** (Boiss.) Damboldt, **LC** [16].

A. linifolium (Boiss. & Heldr.) Bornm. subsp. ***linifolium***, **E. Medit., LC**.

A. michauxioides (Boiss.) Damboldt, **E. Medit., LC**.

A. virgatum (Labill.) Bornm. subsp. ***cichoriiforme*** (Boiss.) Damboldt, **E. Medit. LC**.

Campanula betonicifolia Sm., **E. Medit., LC**.

◆***C. fruticulosa*** (O.Schwarz & P.H. Davis) Damboldt, **E. Medit., EN**.

Type: C2 Muğla: d. Fethiye, Kalkfelsen des Mt. Maşdadağ oberhalb Maşdaköy, 2400 m., O.Schwarz 446 (holo. B, iso. JE, K).

C. hagielia Boiss., **E. Medit., VU**.

◆***C. koyuncui*** H. Duman, **E. Medit., EN**.

Type: C2 Muğla: Fethiye, Baba Dağ, 1750 m., calcareous rocks, 20 vi 1995, H. Duman 5728-K.H.C. Başer & A. Altıntaş (holo. GAZI!; iso. E, ANK!).

C. lyrata Lam. subsp. ***lyrata***, **LC**.

C. podocarpa Boiss., **E. Medit., NT**.

C. telmessi Hub.-Mor., **E. Medit., VU**.

Type: C2 Muğla: Muğla to Fethiye, calcareous rock, 34 km. N.W. of Fethiye, 29 vi 1962, Huber-Morath 16590 (holo. Hb. Hub.-Mor!).

CARYOPHYLLACEAE

Arenaria acerosa Boiss., **LC**.

◆***A. cariensis*** A. Carlström, **VU**.

A. deflexa Dec. subsp. ***microsepala*** McNeill, **E. Medit., NT**.

A. ledebouriana Fenzl var. ***pauciflora*** McNeill, **LC**.

Type: C2 Muğla: Sandras Dağ near Gökce Ova, 1700 m., 23 vii 1947, P.H. Davis 13517 (holo. E! iso. K!).

A. luschanii McNeill, **E. Medit., VU**.

A. pamphylica Boiss. & Heldr. subsp. ***pamphylica*** var. ***turcica*** McNeill, **E. Medit., VU** [17].

A. pamphylica Boiss. subsp. ***alpestris*** (McNeill) McNeill, **E. Medit., NT** [19].

◆***A. rhodia*** Boiss. subsp. ***rhodia*** var. ***macropetala*** McNeill, **E. Medit., EN**.

Type: C2 Muğla: distr. Fethiye, between Kizil Dere and Dalaman Çay, 100 m., serpentine scree, annual, 1 iv 1956, P.H. Davis & Polunin, D. 25543 (holo. E! iso. K!).

A. rhodia Boiss. subsp. ***rhodia*** var. ***rhodia***, **E. Medit., EN**.

A. tmolea Boiss. **E. Medit., LC**.

Bolanthus frankenioides (Boiss.) Bark. var. ***fasciculatus*** (Boiss. & Heldr.) Bark., **E. Medit., LC**.

◆***B. stenopetalus*** Hartvig & Strid, **E. Medit., EN**.

Type: C2 Muğla: Sandras Dağ, W. side of the summit area, 2100-2200 m., snowbed meadows and rocky slopes, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23375 (holo. C, iso. B, E! EGE, G).

◆***Bufonia anatolica*** Chrtek & Krisa var. ***anatolica***, **CR** [12].

Type: Muğla: Cal Dag (N of Fethie), S side 1800 m, rocky slope in opening of mixed coniferous forest

(*Pinus nigra*, *Cedrus libani*), limestone, 9 vii 1984, leg. Hartwig, Seçmen et Strid, no. 23396. Holo. in herb. G; iso. in herb. B conservatur.

B. calyculata Boiss. & Balansa, **LC.**

◆***Cerastium dominici*** Kit Tan & R.R. Mill, **E. Medit., EN.**

Type: C2 Muğla: in Lycia in monte Göz-Tepe, 2000 m., in glaris solo ophiolitico, M. Tissot-Daguette 21674 (in fructibus; holo. NEU).

C. macranthum Boiss., **LC.**

Dianthus eretmopetalus Stapf, **E. Medit., VU.**

D. lydus Boiss., **LC** [16].

Gypsophila confertifolia Hub.-Mor., **E. Medit., LC.**

Type: C2 Muğla: Muğla-Fethiye, 141 km. SE of Muğla, 7 vi 1938, J. Reese (holo. Hb. Hub.-Mor.! iso. Hb. Basler Bot. Ges.).

◆***G. davisii*** Bark., **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ near Gökçe Ova, 1700 m., 23 vii 1947, P.H. Davis 13516a (holo. E! iso. K).

Minuartia anatolica (Boiss.) Woron., **LC** [16].

M. dianthifolia (Boiss.) Hand.-Mazz. subsp. ***dianthifolia***, **LC.**

M. leucocephaloides (Bornm.) Bornm., **LC.**

M. recurva (All.) Schinz & Thell. subsp. ***carica*** McNeill, **VU.**

Type: C2 Muğla: Sandras Da., 2200 m., 23 vii 1947, P.H. Davis 13552 (holo. E! iso. K!).

◆***M. umbellulifera*** (Boiss.) McNeill subsp. ***fimbriata*** McNeill, **EN.**

Type: C2 Muğla: Sandras Dağ between Gökçe Ova and summit, 2000 m., 23 vii 1947, P.H. Davis 13502 (holo. E! iso. K!).

◆***M. verna*** (L.) Hiern subsp. ***brevipetala*** Hartvig & Strid, **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, W. of the summit, 1970 m., slightly sloping stony flat (snowbed) near a small creek close to timberline, serpentine, lat. 37°04'N, long. 28°50'E, 7 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23336 (holo. C, iso. B, E! EGE, G).

◆***Petrorhagia lycica*** (P.H. Davis) Ball & Heywood, **E. Medit., VU.**

Type: C2 Muğla: d. Fethiye, Baba Dag above Akbel Yayla, 1800 m., P.H. Davis 13675 (holo. E!).

Saponaria chlorifolia Kunze, **LC.**

S. pinetorum Hedge, **E. Medit., LC.**

Type: C2 Muğla: d. Kemer, Teke Dağ near Ovacik in Pinetum brutiae, 1200m., P.H. Davis 15343 (holo. E!).

Silene aydosensis K.Yıldız & Erik, **Medit., VU** [24]. Paratype: Turkey, C2 Muğla: between Koyceğiz and Ağla villages, 1400 m, 3.ix.1992, **A.Güner** 10890 (ANK).

◆***S. brevicalyx*** Hartvig & Strid, **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, SW. side along road between the village of Ağla and the fire watchtower, 1250 m., open *Pinus nigra* forest, lat. 37°04'N, long. 28°49'E, 6 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23274 (holo. C, iso. E!).

◆***S. cariensis*** Boiss. subsp. ***muğlae*** Vural & Dönmez, **E. Medit., CR** [25].

Type: C2 Muğla: Köyceğiz, Sultaniye, Kersele stream, 15-30 m, in stream bed, metamorphic, 21 v 1991, A. Güner 9178, M. Vural & H. Şağban (holo. HUB; iso. GAZI!).

S. delicatula Boiss. subsp. ***delicatula***, **E. Medit., LC.**

S. echinospermoides Hub.-Mor., **E. Medit., LC.**

◆***S. köyceğizensis*** Dönmez & Vural, **CR** [25].

Type: C2 Muğla: Köyceğiz, Candır village, Horozlar district, 20 m, fallow field, 19 vi 1991, A. Güner 9535, M. Vural, H. Duman, A. A. Donmez & H. Şağban (holo. HUB; iso. GAZI!).

S. leptoclada Boiss., **E. Medit., NT** [26].

◆***S. sordida*** Hub.-Mor., **E. Medit., VU.**

Type: C2 Muğla: Kale to Muğla, 57 km. nach Kale, 30 km. vor Muğla, Pinetum, 5 vi 1938, Huber-Morath 5846 (holo. Hb. Hub.-Mor.!).

S. tunicoides Boiss., **E. Medit., NT.**

Type: C2 Muğla: in Lyciae rupibus ad Marmoritza (Marmaris), Aucher 562 (iso. K!).

S. urvillei Schott, **E. Medit., VU.**

Spergularia lycia Monnier & Quézel, **E. Medit., VU.**

Velezia hispida Boiss., **LC.**

V. pseudorigida Hub.-Mor., **E. Medit., VU.**

CHENOPODIACEAE

Salsola canescens (Moq.) Boiss. subsp. ***serpentinicola*** Freitag & E. Özhatay, **E. Medit., LC.**

Type: C2 Muğla: distr. Köyceğiz, Sandras Dağı, Serçe Gediği, 1650 m., open *Pinus nigra* forest, serpentinic rock, 6 ix 1978, N. & E. Özhatay (holo. ISTO 51122!; iso. KAS!).

CONVOLVULACEAE

Convolvulus galaticus Rostan ex Choisy, **Ir.-Tur., LC** [20].

CRASSULACEAE

◆***Prometheum serpentinicum*** (Werderm.) 't Hart

var. **giganteum** (Egglı) 't Hart, **CR**.

Type: C2 Muğla: between Muğla and Marmaris, in a narrow ravine, serpentine, ann., 1984, A. Carlström s.n. (holo. Z, iso. ISTE!)

Rosularia chrysantha (Boiss.) Tahkt., **E. Medit., LC**.

R. globulariifolia (Fenzl) Berger, **E. Medit., LC**.

R. sempervivum (M. Bieb.) A. Berger subsp. **glaucophylla** Egglı, **E. Medit., EN**.

R. serpentinica (Werderm.) Muirhead, **E. Medit., LC**.

Type: C2 Muğla: distr. Köyceğis, Sandras Da., in rupibus serpentinicis cacuminis Çiçkli Buba, c. 3000 m., 18 vii 1938, O.Schwarz 557.

♦**Sedum eriocarpum** Sibth. & Sm. subsp. **caricum** (Carlström) 't Hart, **EN**.

Type: C2 Muğla: Armutalanı, c. 3 km. W. of Marmaris, open ground on serpentine, 23 iv 1983, Carlström 9694 (LD!).

S. lydium Boiss., **E. Medit., LC**.

Type: in humidis et ad rivulos regionis alpinae montium Lydiae et Cariae.

♦**S. ursi** 't Hart, **LC**.

Type: C2 Muğla: Sandras Dağı, above Ağla, Gök Gedik Tepesi, on limestone and serpentine gravel, 1650 m., Egglı 729a, cult. in Hort. Bot. Zurich, May (holo. Z).

Sempervivum ispartae Muirhead, **E. Medit., CR** [19].

DIPSACACEAE

Cephalaria lycica Matthews, **E. Medit., NT**.

Type: C2 Muğla: S. side of Girdev Da., 1700-2200 m., 5 viii 1947, P.H. Davis 13857 (holo. E! iso. K!).

Ptercephalus pinardii Boiss., **E. Medit., LC**.

Type: in montibus Cariae ubi aestate 1843, Chr. Pinard (G!).

Scabiosa polykratis Rech. fil., **E. Medit., LC**.

S. reuteriana Boiss., **E. Medit., LC**.

Type: C2 Aydın: in collibus siccis Cariae prope Jenidje et Gheyra, vi 1842, Boiss. (iso K! iso. BM!).

EUPHORBIACEAE

Euphorbia anacampseros Boiss. var. **anacampseros**, **LC**.

E. austroanatolica Hub.-Mor. & M. S. Khan, **E. Medit., LC**.

Type: C2 Muğla: dist. Köyceğiz, Muğla-Fethiye, Macchie 141 km. südöstlich Muğla, 7 vi 1938, Huber-Morath 5281 (holo. Hb. Hub.-Mor., iso. E!).

E. erythron Boiss. et Heldr., **Ir.-Tur., LC**.

E. falcata L. subsp. **macrostegia** (Bornm.) O.

Schwarz, **E. Medit., LC**.

FABACEAE (LEGUMINOSAE)

Astragalus angustiflorus C. Koch subsp. **anatolicus** (Boiss.) D.F. Chamb., **E. Medit., LC**.

Type: in Caria, Aucher 1319 (BM!).

A. cariensis Boiss., **E. Medit., LC**.

Type: C1 Muğla: in Caria prope Moglah, Aucher 1326 (holo. G! iso. BM! K!).

A. columnaris Boiss., **CR**.

A. condensatus Ledeb., **Ir.-Tur., LC** [20].

A. dirmilensis Hub.-Mor. & Reese, **VU**.

A. flavescens Boiss., **E. Medit., NT** [16].

A. gilvus Boiss., **LC**.

Type: C1/2 in Caria, Pinard (G!).

♦**A. hartvigii** Kit Tan, **E. Medit., EN**.

Type: C2 Muğla: west side of Ak Dağ, alpine pasture on rocky limestone slopes, 2600-2800 m., 11 vii 1984, Hartwig, Ö. Seçmen & A. Strid, Strid et al. 23529 (holo. C! iso. E! M!).

A. microrchis Barbey, **E. Medit., LC**.

Type: C2 in sumro jugo inter Tcheipatzar et Makri (Fethiye) Lyciae, Pichler 234.

♦**A. muğliensis** Podlech & Ekici, **Medit., CR** [27].

Type: Turkey, C2 Muğla: Ak Dağ, west side, 1900 m a.s.l., 11.vii.1984, **P.Hartvig, Özcan Seçmen & A.Strid, Strid** et al. 23494 (holo. MSB, iso. C).

♦**Chamaecytisus gueneri** H. Duman, Başer & Malyer, **E. Medit., CR**.

Type: C2 Muğla: Köyceğiz, Sandras Dağ, between Ağla and Eskere, 1700 m., 25 vii 1992, open **Pinus nigra** forest, serpentine slopes, A. Güner 10760-A. A. Dönmez & H. Şağban (holo. HUB! iso. GAZ! E!).

Colutea melanocalyx Boiss. & Heldr. subsp. **davisiana** (Browicz) D.F. Chamb., **E. Medit., LC** [26].

Coronilla grandiflora Boiss., **E. Medit., LC**.

Type: Caria, 1843, Pinard (iso. BM! K!).

Cytisopsis dorycniifolia Jaub. & Spach. subsp. **reeseana** (Guyot) Hub.-Mor., **Medit., NT**.

Ebenus barbiger Boiss., **E. Medit., LC**.

E. laguroides Boiss. var. **laguroides**, **Ir.-Tur., LC** [19].

E. pisidica Hub.-Mor., **E. Medit., CR**.

E. reesei Hub.-Mor. var. **reesei**, **E. Medit., LC**.

Type: C2 Muğla: Fethiye-Dirmil, Pinetum auf Mergelkalk 51 km. N von Fethiye, 1000 m., 8 vi 1938, Huber-Morath 5100, Reese, Renz (holo. Hb. Hub.-Mor.! iso. Hb. Basler Bot. Ges.!, Hb. Renz!).

♦**Genista sandrasica** Hartvig & Strid, **E. Medit., EN**.

Type: C2 Muğla: Sandras Dağ, SW. side, along road between the village of Ağla and the fire watchtower, 1750 m., open *Pinus nigra* forest, lat. 37°04'N, long. 28°49'E, 6 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23292 (holo. C, iso. B, E! EGE, G).

Lotus macrotrichus Boiss., **E. Medit., VU** [20].

♦***Mellilotus gorkemii*** Yıld., **Medit., CR** [28].

Type: Turkey, C1 Muğla: Datca Kinidos'a doğru, yol kıyısı, yamac, 550-600 m, 13.iv.2008, Ş.Yıldırımli 34708 & ***Görkem Yıldırımli*** (holo. Hb. Yıldırımli, iso. ANK, GAZI, HUB, K, KNYA).

Onobrychis armena Boiss. & Huet, **LC**.

Trifolium caudatum Boiss., **LC**.

♦***T. nigrescens*** Viv. subsp. ***petrisavii*** (Clem.) Holmboe var. ***grandifolium*** A. S. Ertekin & H. Akbayın, **CR** [29].

Type: C2 Muğla: Around Koyceğiz village, 10 m, meadows, 10 vii 1984, A. S. Ertekin and H. Akbayın, DUF 8151. southwest Anatolia.

♦***Trigonella carica*** Hub.-Mor., **E. Medit., LC**.

Type: C2 Muğla: Muğla-Kale, *Pinus brutia*-Wald, Kalkgeröll, 16 km. NE von Muğla, 1250 m., 28 v 1962, Huber-Morath 16553, Dudley, D. 35081 (holo. Hb. Hub.-Mor.! iso. E!).

T. kotschy Fenzl, **Ir.-Tur., LC** [19].

♦***T. pseudocapitata*** Contandr. & Quézel, **E. Medit., CR**.

Type: C2 Muğla/Denizli: paturages rocaillieux calcaires sur le revers occidental du Göz Tepe inter Fethiye [sic] et Cameli, 1600 m., 21 vi 1973, P. Q.[uezel] & J. C.[ontandriopoulos] 73-435 (holo. MARS).

T. sirjaevii Hub.-Mor., **E. Medit., LC**.

Vicia quadrijuga P.H.Davis, **EN** [19].

FAGACEAE

Quercus aucheri Jaub. & Spach, **E. Medit., LC**.

GENTIANACEAE

♦***Centaurium serpentinicola*** A. Carlström, **E. Medit., VU**.

Type: C1 Muğla: Datça peninsula, 8 km. N.W. of Orhaniye, c. 100 m., 18 v 1983, Carlström 10671 (holo. LD).

GERANIACEAE

Geranium lasiopus Boiss. & Heldr., **Ir.-Tur., VU** [21].

GLOBULARIACEAE

Globularia dumulosa O. Schwarz, **E. Medit., EN**.

HAMAMELIDACEAE

Liquidambar orientalis Mill. var. ***orientalis***, **E.**

Medit., VU.

L. orientalis Mill. var. ***integriloba*** Fiori, **E. Medit., VU**.

HYPERICACEAE (GUTTIFERAE)

♦***Hypericum aviculariifolium*** Jaub. & Spach subsp. ***aviculariifolium*** var. ***albiflorum*** Hub.-Mor., **E. Medit., VU**.

H. aviculariifolium Jaub. & Spach subsp. ***aviculariifolium*** var. ***aviculariifolium***, **E. Medit., LC**.

H. rupestre Jaub.&Spach, **E. Medit., EN** [19].

ILLECEBRACEAE

Herniaria saxatilis Brummitt, **VU**.

Paronychia mughlaei Chaudhri, **E. Medit., VU**.

Type: C2 Muğla: Muğla to Kale, 16 km. from Muğla, 1250 m., 28 v 1962, Dudley, D. 35084 (holo. E!).

P. chionaea Boiss. subsp. ***chionaea*** var. ***chionaea***, **LC**.

LAMIACEAE (LABIATAE)

♦***Acinos troodi*** (Post) Leblebici subsp. ***grandiflorus*** Hartvig & Strid, **E. Medit., EN**.

Type: C2 Muğla: Çal Dağ, S. side, 1900-2000 m., rocky slopes facing W., open *Pinus nigra* woodland near timberline, limestone, lat. 36°50'N, long. 29°08'E, 9 vii 1984, Hartwig, Ö. Seçmen & A. Strid 23423 (holo. C, iso. B, E! EGE, G).

♦***A. troodi*** (Post) Leblebici subsp. ***vardaranus*** Leblebici, **E. Medit., EN**.

Type: C2 Muğla: Sandras Da. nr Gökçe Ova, on serpentine, 1700 m., 23 vii 1947, P.H. Davis 13499 (holo. E!).

Ajuga bombycina Boiss., **E. Medit., NT**.

Ballota glandulosissima Hub.-Mor. & Patzak, **E. Medit., LC**.

B. pseudodictamnus (L.) Benth. subsp. ***lycia*** Hub.-Mor., **E. Medit., LC**.

Lamium eriocephalum Benth. subsp. ***glandulosidens*** (Hub.-Mor.) R.R. Mill, **E. Medit., NT** [16].

L. garganicum L. subsp. ***pulchrum*** R.R. Mill, **E. Medit., NT** [16].

L. lycium Boiss., **E. Medit., LC**.

L. microphyllum Boiss., **E. Medit., VU**.

♦***L. sandasicum*** P.H. Davis, **E. Medit., EN**.

Type: C2 Muğla: distr. Köyceğiz (Caria), Sandras Dağ, 2200 m., 23 vii 1947, P.H. Davis 13548 (holo. K! iso. E!).

Lavandula stoechas L. subsp. ***cariensis*** (Boiss.) Rozeira, **E. Medit., NT**.

Marrubium bourgaei Boiss. subsp. ***bourgaei***

Boiss., **E. Medit., NT.**

M. globosum Montbret et Aucher ex Benth. subsp. **globosum** Montbret et Aucher ex Benth., **Ir.-Tur., LC.**

Micromeria cristata (Hampe) Griseb. subsp. **xyloorrhiza** (Boiss. & Heldr.) P.H. Davis, **E. Medit., LC.**

Nepeta cadmea Boiss., **E. Medit., LC** [26].

N. isaurica Boiss. et Heldr., **E. Medit., LC.**

N. nuda L. subsp. **glandulifera** Hub.&Mor., **E. Medit., CR** [19].

N. viscida Boiss., **E. Medit., NT.**

Origanum hypericifolium O. Schwarz & P.H. Davis, **E. Medit., LC.**

O. sipyleum L., **E. Medit., LC.**

Phlomis angustissima Hub.-Mor., **Medit., VU.**

P. armeniaca Willd., **Ir.-Tur., LC.**

P. bourgaei Boiss., **E. Medit., NT.**

P. carica Rech. fil., **Ir.-Tur., LC.**

P. chimerae Boiss., **E. Medit., VU** [15].

P. linearis Boiss.&Balansa, **Ir.-Tur., LC** [19].

P. lycia D. Don, **E. Medit., LC.**

Salvia camica Boiss., **LC.**

S. chrysophylla Stapf, **Ir.-Tur., LC.**

S. dichroantha Stapf, **Ir.-Tur., LC.**

Type: C2 Muğla: inter Baschibunar (Başpınar) et Gurdef (Girdev), 19 vii 1882, Luschan (holo. WU! photo E!).

♦**S. nydeggeri** Hub.-Mor., **E. Medit., EN.**

Type: C2 Muğla: Föhrenwald 51 km. südlich von Dirmil (Altınyayla), gegen Fethiye, 1000 m., 20 vi 1981, M. Nydegger 16328 (holo. Hb. Nydegger, iso. Hb. Hub.-Mor.).

Scutellaria rubicunda Hornem. subsp. **brevibracteata** (Stapf) J.R. Edm., **E. Medit., LC.**

Type: C2 Muğla: Lycia, inter Kuju Jaila et Balbura (ancient site in Karaculha De.), 20 viii 1882, Luschan (holo. WU!).

Sideritis albiflora Hub.-Mor., **E. Medit., LC.**

♦**S. leptoclada** O. Schwarz & P. H. Davis, **E. Medit., LC.**

Type: C2 Muğla: d. Köyceğiz, between Dalaman and Göcek (Köcek), below 300 m., in open Pinetum brutiae, 26 vii 1947, P. H. Davis 13566 (holo. K, iso. E! W!).

S. libanotica Labill. subsp. **linearis** (Benth.) Bornm., **LC.**

S. pisidica Boiss. & Heldr., **E. Medit., NT.**

S. sipylea Boiss., **E. Medit., NT** [19].

S. stricta Boiss. & Heldr., **E. Medit., LC.**

Stachys bombycina Boiss., **E. Medit., NT.**

S. cretica L. subsp. **smyrnaea** Rech. fil., **E. Medit., LC.**

♦**Teucrium alyssifolium** Stapf, **E. Medit., LC.**

Type: C2 Muğla: Lycia, ad Chertek (Kertek), 8 vi 1882, Luschan (holo. WU!).

T. montbretii Benth. subsp. **pamphylicum** P. H. Davis, **E. Medit., VU** [15].

T. odontites Boiss. & Balansa, **E. Medit., EN.**

♦**T. sandrasicum** O. Schwarz, **E. Medit., LC.**

Type: C2 Muğla, dist. Fethiye, in pinetis apertis lapidosis inter monte Caldağ et Pirnasdağ ad. Jugum Kirkpınar solo serpentino, c. 1200-1500 m., 15 viii 1938, O.Schwarz 416 (holo. JE).

Thymbra spicata L. var. **intricata** P.H. Davis, **E. Medit., LC.**

Thymus argaeus Boiss. & Balansa, **Ir.-Tur., NT** [19].

♦**T. cariensis** Hub.-Mor. & Jalas, **E. Medit., CR.**

Type: C2 Muğla: Köyceğiz, Muğla-Fethiye, **Pinus brutia** Wald, Macchie 43 km. S. Muğla, 70 m., 29 v 1962, A. Huber-Morath 16742 (holo. Hb. Hub.-Mor.! iso. H!).

T. cilicicus Boiss. & Balansa, **E. Medit., LC.**

T. sipyleus Boiss. subsp. **sipyleus** var. **davisianus** Ronniger, **E. Medit., NT.**

Type: C2 Muğla: d. Fethiye, Girdev (Eren) Da., S. side, 2000 m., P. H. Davis, D. 13833 (holo. E! iso. W!).

T. sipyleus Boiss. subsp. **sipyleus** var. **sipyleus**, **LC.**

LINACEAE

Linum boissieri Asch. & Sint. ex Boiss., **E. Medit., EN.**

L. carienne Boiss., **Ir.-Tur., LC.**

Type: Caria: 1843, Pinard (holo. G! iso. K! BM!).

♦**L. mucronatum** Bertol. subsp. **gypsicola** P.H. Davis var. **papilliferum** (Hub.-Mor. & Reese) P.H. Davis, **Ir.-Tur., EN.**

Type: C2 Muğla: Fethiye-Dirmil, stepe, 87 km. nach Fethiye, 17 km. vor Dirmil, 1100 m., 9 vi 1938, Huber-Morath 5662, Reese (Hb. Huber-Morath!).

L. obtusatum (Boiss.) Stapf, **Ir.-Tur., LC.**

Type: C2 Antalya/Muğla: in lapidosismontis Akdagh in regione alpina, Bourgeau p. p. (holo. G! iso. K!).

PAPAVERACEAE

Corydalis wendelboi Lidén subsp. **wendelboi**, **CR.**

Type: C2 Muğla: Yeşil Göl Dağ, between the peaks, limestone, 1500-1800 m., 23 iv 1972, Runemark &

Wendelbo 219 (holo. GB).

Hypocoum procumbens L. subsp. ***atropunctatum*** A.E.Dahl, **CR**.

Papaver apokrinomenon Fedde, **LC**.

P. argemone L. subsp. ***davisii*** Kadereit, **E. Medit., VU**.

Type: C1 Muğla: d. Bodrum, Murgebi to Karatoprak, 50-100 m., sandy igneous slopes, or edges of fields, P.H. Davis 40979 (holo. E! iso. K).

P. clavatum Boiss. & Hausskn. ex Boiss., **LC** [21].

♦***P. guerlekense*** Stapf, **E. Medit., EN**.

Type: C2 Muğla: Lycia, ad Gürlek, 7 vi 1882 [recte 1881 - see Mill in Notes R. B. G. 41: 60-61. 1983], Luschan (holo. WU - scrappy, in fruit).

♦***Roemeria carica*** A. Baytop, **E. Medit., EN**.

Type: C2 Muğla: Marmaris, above Bayirköy, 230 m., 3 v 1980, A. Baytop ISTE 44137 (holo. ISTE, iso. E!).

PLUMBAGINACEAE

♦***Acantholimon koycegizicum*** Doğan & Akaydın, **E. Medit., CR** [36].

Type: C2 Muğla: Koyceğiz around Sultaniye, serpentine slopes, 20 m., 23 viii 2001, Doğan & Akaydın 7237 ANK.

A. ulicinum (Willd. ex Schultes) Boiss. subsp. ***ulicinum*** var. ***purpurascens*** (Bokhari) Bokhari & J.R. Edm., **E. Medit., LC**.

Limonium effusum (Boiss.) Kuntze, **E. Medit., VU**.

POLYGONACEAE

♦***Polygonum karacae*** Ziel. & Borat., **LC**.

Type: C2 Muğla: Massif of Sandras Dağı, summit area of Çiçekli Büyük Kızıldağ, 1900-1950 m., 20 vi 1989, Boratynski & Zielinski 6900 (B, iso. KOR!).

P. salebrosum Coode & Cullen, **LC**.

Type: C2 Muğla: Girdev Dağ, 2200 m., 3 viii 1947, P.H. Davis 13776a (E!).

PRIMULACEAE

Cyclamen mirabile Hildebr., **E. Medit., EN**.

C. trochopteranum O. Schwarz, **E. Medit., LC**.

Type: The K sheet so numbered (P.H. Davis & Polunin, D. 25368!) is, however, labelled C2 Muğla: Marmaris-Emecik, 350 m.

RANUNCULACEAE

Ranunculus reuterianus Boiss. **LC**.

RHAMNACEAE

Rhamnus pichleri C.K.Schneid. & Bornm. ex Bornm., **E. Medit., NT**.

R. pyrellus O. Schwarz, **E. Medit., LC**.

Type: C2 Muğla: in rupibus supra oppidum Muğla, c. 900 m., O. Schwarz 616.

ROSACEAE

Amelanchier parviflora Boiss. var. ***parviflora***, **E. Medit., LC**.

♦***Crataegus aronia*** (L.) Bosc ex DC. var. ***dentata*** Browicz, **VU**.

Type: C2 Muğla: Marmaris, Bayir, 15 iv 1965, P.H. Davis 41136 (holo. E! iso. K!).

C. aronia (L.) Bosc ex DC. var. ***minuta*** Browicz, **E. Medit., LC**.

RUBIACEAE

Asperula brevifolia Vent., **E. Medit., LC**.

♦***A. bryoides*** Stapf, **E. Medit., CR**.

Type: C2 Muğla: in monte Ujuklu Dagh, 14 vi 1881, Luschan (holo. WU!).

A. lycia Stapf, **E. Medit., LC**.

A. serotina (Boiss. et Heldr.) Ehrend., **E. Medit., NT**.

A. stricta Boiss. subsp. ***monticola*** Ehrend., **E. Medit., LC**.

A. tenuifolia Boiss., **E. Medit., LC**.

Galium brevifolium Sm. subsp. ***brevifolium***, **E. Medit., LC**.

G. campanelliferum Ehrend. et Schönb.-Tem., **LC**.

G. canum Req. ex DC. subsp. ***antalyense*** Ehrend. **E. Medit., NT** [38].

G. dumosum Boiss., **LC**.

G. floribundum Sm. subsp. ***airoides*** Hub.-Mor. ex Ehrend. et Schönb.-Tem., **E. Medit., NT**.

♦***G. globuliferum*** Hub.-Mor. & Reese, **E. Medit., EN**.

Type: C2 Muğla: Muğla-Fethiye, 141 km. nach Muğla, nahe der Küste, 7 vi 1938, Reese, Renz & Huber-Morath (Hub.-Mor. 5661) (holo. Hb. Hub.-Mor.! iso. Hb. Reese! W!).

G. incanum Sm. subsp. ***centrale*** Ehrend., **E. Medit., LC**.

G. tmoleum Boiss., **VU**.

RUTACEAE

Haplophylum pumiliforme Hub.-Mor. & Reese, **LC**.

Type: C2 Muğla: Fethiye to Dirmil, Huber-Morath 5847 (holo. Hb. Hub.-Mor.!).

SCROPHULARIACEAE

Digitalis cariensis Boiss. ex Jaub. et Spach, **E. Medit., LC**.

Type: Caria, Pinard.

D. davisiana Heywood, **E. Medit., LC**.

Scrophularia cryptophila Boiss. & Heldr., **E. Medit., LC** [16].

S. depauperata Boiss., **LC**.

S. floribunda Boiss. & Balansa, **Medit., NT**.

S. pinardii Boiss., **E. Medit., LC.**

Type: In rupestribus Cariae, 1843, Pinard (holo. G!, iso. K!).

Verbascum adenophorum Boiss., **E. Medit., LC.**

Type: C2 Muğla/Denizli in Caria, aestate 1843, Pinard (holo. G!).

V. bellum Hub.-Mor., **E. Medit., LC.****V. cariense** Hub.-Mor., **E. Medit., NT.**

V. cheiranthifolium Boiss. var. **asperulum** (Boiss.) Murb., **LC.**

V. chrysochaete Stapf, **E. Medit., NT.**♦**V. dalamanicum** Hub.-Mor., **E. Medit., EN.**

Type: C2 Muğla: Pinus brutia-Wald zwischen Muğla und Fethiye, 116 km. nach Muğla, 6 km. ob der Küste bei Gölçük, in der Nähe des Dalamanflusses, 300 m., 7 vi 1938, Huber-Morath 5489 (holo. Hub.-Mor.!).

♦**V. demirizianum** Hub.-Mor., **E. Medit., EN.**

Type: C2 Muğla: Muğla-Fethiye, ausgetrocknetes Bachbett 57 km. südöstlich Muğla, 7 km. vor Köyceğiz, s.l., 20 vi 1954, H. Demiriz (holo. Hb. Hub.-Mor.!).

♦**V. haraldi-adnani** Parolly & Eren, **CR** [39].

Type: Turkey, C2 Muğla, Yılanlı Dağı E of Muğla along the way to Akyer Goktepe, 37°19'34.2"N, 28°30'30.9"E, 1250 m, siliceous rock in *Pinus nigra* forest, 19.vii.2007, *Kürschner* 07-269, *Erdağ & Eren* (AYDN, iso. B, herb *Kürschner*, herb Parolly).

V. heterobarbatum Hub.-Mor., **Ir.-Tur., CD** [19].**V. latisepalum** Hub.-Mor., **Ir.-Tur., EN** [26].

V. lydium Boiss. var. **heterandrum** Murb., **E. Medit., LC.**

V. lydium Boiss. var. **lydium**, **E. Medit., NT.****V. napifolium** Boiss., **E. Medit., LC.****V. orgyrale** Boiss. & Heldr., **E. Medit., NT.****V. parviflorum** Lam., **E. Medit., LC.****V. pinardii** Boiss., **E. Medit., LC.**

Type: C2 in Caria, vere 1843, Pinard (holo. G!).

V. propontideum Murb., **E. Medit., VU.**♦**V. renzii** Hub.-Mor., **E. Medit., LC.**

Type: C2 Muğla: *Pinus brutia*-wald zwischen Muğla und Fethiye, 116 km. nach Muğla, 6 km. ob der Küste bei Gölçük, 300 m., 7 vi 1938, Reese & Huber-Morath (Hub.-Mor. 5490) (holo. Hb. Hub.-Mor.! iso. Hb. Basler Bot. Ges.!)

V. splendidum Boiss., **E. Medit., LC.****V. symes** Murb. & Rech.f., **E. Medit., VU.****V. trapifolium** (Stapf) Hub.-Mor., **E. Medit., VU.**

Type: C2 Muğla: Caria, in monte Nif Dagh [N. of

Fethiye], 6 vi 1881, Luschan (holo. WU).

Veronica cuneifolia D. Don subsp. **cuneifolia**, **LC.****V. donii** Rompp, **E. Medit., LC.**

Type: C1 Muğla: in Caria ad Meandrum (Büyük Mendres) et prope Mylassa (Milas), Fellows.

V. lycica E. Lehm., **E. Medit., LC.****VIOLACEAE**♦**Viola dirimliensis** Blaxland, **CR** [40].

Type: C2, south-west Anatolia, West of Antalya, Muğla vilayet, east side of Dermil Pass (Dirimli Geçidi) on road 15-55, N36°5.7.956' to N36°58.228', E029°34.942' to E029°35.192', 1550-1690 m., 18 iv 2002, K. Blaxland (Holo. ANK; Iso. HUB, Z, NY)."

MONOCOTYLEDONAE**AMARYLLIDACEAE**♦**Sternbergia candida** B. Mathew & T. Baytop, **E. Medit., VU.**

Type: C2 Muğla: near Fethiye, 14 i 1979, T. Baytop ISTE 41750 (holo. K! iso. E! ISTE).

CYPERACEAE♦**Carex cilicica** Boiss. subsp. **muğlaica** Ö. Nilsson, **E. Medit., EN.**

Type: C2 Muğla: Girdev Dağ, 2400 m., P.H. Davis 13992 (holo. K!).

IRIDACEAE**Crocus antalyensis** B. Mathew, **E. Medit., NT.**

♦**C. antalyensis** B. Mathew subsp. **striatus** Erol & Kocyiğit, **Medit., CR** [14].

Type: Turkey, C1 Mugla: surrounding hills of Mugla, 900-1050 m a.s.l., 16.ii.2007, *O.Erol & L.Şık*, ISTF 40079 (holo. ISTF).

♦**C. biflorus** Mill. subsp. **atrospermus** Kernd. & Pasche, **CR** [12].

Holotype: (Turkey) Lycia. Muğla: Boncuk Dağları, 1580-1990 m, 10.iii.1997, HKEP 9377 (K).

♦**C. biflorus** Mill. subsp. **caricus** Kernd. & Pasche, **CR** [30].

Type: C2 Muğla: Batı Menteşe dağları, 900-1200 m, HKEP 0307, 14 iii 2003 (holo. LI).

♦**C. biflorus** Mill. subsp. **ionopharynx** Kernd. & Pasche, **CR** [30].

Type: C2 Muğla: Batı Menteşe dağları, 800-1200 m, HKEP 0306, 14 iii 2003 (holo. LI).

C. biflorus Mill. subsp. **isauricus** (Siehe ex Bowles) B. Mathew, **E. Medit., LC.**

C. biflorus Mill. subsp. **nubigena** (Herb.) B. Mathew, **E. Medit., LC.**

♦**C. biflorus** Mill. subsp. **yataganensis** Kernd. et Pasche, **CR** [13].

Type: C2 Muğla, Doğu Menteşe Dağları, 1000-1200 m, 18 iii 2004, HKEP 0402 (holo. LI).

C. cancellatus Herb. subsp. **lycius** B. Mathew, **E. Medit., NT.**

C. fleischeri Gay, **E. Medit., LC.**

C. gargaricus Herb. subsp. **gargaricus**, **Euro-Sib., NT.**

Gladiolus anatolicus (Boiss.) Stapf, **E. Medit., LC.**

G. micranthus Stapf, **E. Medit., VU.**

Type: C2 Muğla: Lycia, in monte Nif Dagh, [5-6 vi] 1881, Luschan s.n. (holo. WU!).

Iris purpleobracteata B. Mathew & T. Baytop, **E. Medit., NT.**

I. unguicularis Poir. subsp. **carica** (Wem. Schultze) A.P. Davis & Jury var. **carica**, **E. Medit., CR.**

Type: C1/2 ? Muğla: Caria, 1843, Pinard (holo. G iso. BM, P).

I. xanthospuria B. Mathew & T. Baytop, **E. Medit., VU.**

Type: C2 Muğla: between Muğla and Köyceğiz, 7 km. from Köyceğiz, 40 m., 26 iv 1977, T. Baytop ISTE 36675 (holo. K! iso. ISTE).

JUNCACEAE

Juncus anatolicus Snog., **E. Medit., LC.**

J. sparganiiifolius Boiss. & Kotschy ex Buchenau, **E. Medit., LC.**

LILIACEAE

♦**Allium circinnatum** Sieber subsp. **evae** R. M. Burton, **CR** [31].

Type: C2 Muğla: SE of Ölüdeniz, near road to Kadak, E. Pirie s.n., iv 1992 (holo. BM).

A. deciduum Özhatay & Kollmann subsp. **deciduum**, **E. Medit., LC.**

Type: C2 Muğla: d. Köyceğiz, Sandras Dağı, nr Böceli, 1670 m., 24 vii 1977, E. Özhatay 1219 (holo. ISTE 43971!).

♦**A. fethiyense** Özhatay & B. Mathew, **E. Medit., LC.**

Type: C2 Muğla: 54 km. from Köyceğiz to Fethiye, roadsides, 100 m., 28 v 1988, N. & E. Özhatay (ISTE 58655) (holo. ISTE! iso. K!).

A. reuterianum Boiss., **E. Medit., LC.**

A. sandracicum Kollmann, Özhatay & Bothmer, **E. Medit., LC.**

Type: C2 Muğla: d. Köyceğiz, Sandras Dağı, Pangudur Tepe, 200 m., 10 vii 1979, E. Özhatay 2645 (holo. ISTE 43996!).

A. stylosum O. Schwarz, **E. Medit., LC.**

Asphodeline anatolica Tuzlaci, **Ir.-Tur., LC.**

Chionodoxa forbesii Baker, **E. Medit., LC.**

Type: C2 Muğla: Lycia, E. Forbes 625 (holo. K!).

Colchicum balansae Planch., **E. Medit., LC.**

C. burttii Meikle, **E. Medit., LC.**

C. chalconicum Azn. subsp. **punctatum** K.Perss, **E. Medit., CR.**

♦**C. lingulatum** Boiss. & Spruner subsp. **rigescens** K.Perss, **E. Medit., CR.**

Type: C2 Muğla: 25 km. from Marmaris to Datça, bare Brown stony soil (serpentine) among *Pinus*, 140 m., 21 iv 1991, fld. in cult. 31 viii 1992, K. Perss. 515 (holo. GB! iso. K!).

C. sanguicolle K.Perss., **E. Medit., EN.**

Fritillaria bithynica Baker, **E. Medit., LC.**

F. carica Rix subsp. **carica**, **E. Medit., NT.**

F. crassifolia Boiss. & Huet subsp. **crassifolia**, **LC.**

F. elwesii Boiss., **E. Medit., NT.**

Type: C2 Muğla: in Lycia prope fluvium Dollomon (Dalaman Çay), Elwes (holo. G).

♦**F. forbesii** Baker, **E. Medit., EN.**

Type: C2 Muğla: Lycia in dumetis rupestribus ad Macri (Fethiye), [s.l.-1000 m., 1842], E. Forbes 626 (holo. K!).

♦**F. milasense** Tekşen & Aytaç, **EN** [32].

Type: C2 Muğla: Between Yatağan and Milas, Katrancı village, 22 iii 2001, 700 m, in the screen of *Pinus pinea* L. forest, sandy soil, M. Teşlen 1999, E. Tekşen & Mehmet Soydemir (holo. GAZI; iso. ANK, ISTF, HUB).

♦**F. mughlae** Tekşen & Aytaç, **E. Medit., CR** [33].

Type: Turkey, C1 Muğla: Marmaris-Datca, between Hisaronu and Emecik, 45 km to Datca, 70-80 m, rocky slopes, 01.iii.2001, **M. Tekşen** 1996, **E. Tekşen** and **U. Soydemir** (GAZI; iso. ANK, ISTF, HUB).

Paratype: Turkey, C2 Muğla: Marmaris to Emecik, 350 m, 25.iii.1956, **D. & Pollunin** 25375 (ANK, BM, E, K).

F. serpentinicola Tekşen & Aytaç, **E. Medit., EN** [16].

♦**F. sibthorpiana** (Sm.) Baker subsp. **enginiana** Byfield & Özhatay, **E. Medit., EN.**

Type: C2 Muğla: Köyceğiz, Sandras Dağı, Pankuduz Tepe, under woodland, rocky and moist slopes, 1000 m., 6 iv 1977, E. Özhatay 1077 (holo. ISTE 36685! iso. ISTE 19211! & MARA 0181!).

Gagea bithynica Pasch., **E. Medit., LC.**

♦**Merendera figlalii** Varol, **CR** [13].

Type: C2 Muğla: Sandras Dağ, around Kartal Gölü, 1900-2100 m., 05 v 2001, serpentine rocks, open stony places, Varol 4016 (holo. MUĞLA; iso. GAZI).

◆**Muscari sandrasicum** Karlen, **E. Medit., EN.**

Type: C2 Muğla: Sandras Dağ, W. side of the summit area, 2100-2200 m., snowbed meadows and rocky slopes, serpentine, 7 vii 1984, Strid et al. 23379 (holo. C, iso. EGE, LD).

Ornithogalum alpigenum Stapf, **E. Medit., NT.**

◆**O. mekseliniae** Varol, **EN** [34].

Type: C2 Muğla: Muğla to Denizli, 20. km., Yaraş local, 600 m., 09 iii 2003, damp-fields and water meadows, Varol 4249, (holo. MUĞLA; iso. GAZI)

O. nivale Boiss., **E. Medit., EN** [19].

◆**O. sandrasicum** Yıld., **E. Medit., CR** [35].

Type: Turkey, C2 Muğla: Koyceğiz, Ağla koyu, Sandras dağı, bulak karşısı, karacam orman açıklığı, çarşak, 1275-1300 m, 30.v.2009, Ş.Yıldırımli 35960, **Görkem Yıldırımli & H.İşıl Yıldırımli** (holo. Hb. Yıldırımli, iso. GAZI, HUB).

Tulipa armena Boiss. var. **lycica** (Baker) Marais, **LC.**

ORCHIDACEAE

◆**Ophrys argolica** H. Fleischm. ex Vierh. subsp. **madalyana** (B. & H. Baumann) Kreutz, **CR** [13].

Type: C2 Muğla: Bodrum, 15 iv 1982, B. Baumann & H. Baumann (holo. STU).

◆**O. calypsus** M.Hirth & H.Spaeth, **E. Medit, CR.**

O. holoserica (Burm. fil.) Greuter subsp. **heterochila** Renz & Taub., **E. Medit., VU.**

Type: C1 Muğla: inter Bodrum et Karaova, in silvis Pini brutia, solo calcareo, 1 iv 1980, J. Renz & G. Taubenheim 12589 (holo. Hb. Renz! iso. E!).

◆**O. homeri** M.Hirth & H.Spaeth, **E. Medit., CR.**

O. labiosa Kreutz, **E. Medit., CR.**

Type: C2 Muğla: Incirköy, 720 m., 18 iv 1997, C.A.J. Kreutz s.n. (holo. L).

O. lesbis Gözl & H. R. Reinhard, **E. Medit., CR.**

O. phaseliana D. Rückbrodt & U. Rückbrodt, **E. Medit., CR.**

O. phrygia H.Fleischm. & Bornm., **Ir.-Tur., LC** [16].

◆**O. x rueckbrodtiana** W. Hahn, **CR** [13].

Type: C2 Muğla: prope urbem Karacaören; Mezarlık büyük, 8 v 2007, W.Hahn (holo. Hb. C. A. J. Kreutz).

◆**Serapias vomeracea** Briq. subsp. **artemisiae** W. Hahn, Kreutz & Passin, **CR** [13].

Type: C2 Muğla: Ortaca (Dalaman), 16 iv 1997, C. A. J. Kreutz (holo. L).

POACEAE (GRAMINAE)

◆**Apera baytopiana** Doğan, **E. Medit., EN.**

Type: C2 Muğla: Köyceğiz to Gökova, Karaböğürtlen, 30 vi 1979, E. Leblebici, Ö. Seçmen & L. Bekat

2857 (holo. EGE iso. ISTE 43921!).

◆**Bellardiochloa carica** R.R. Mill, **E. Medit., EN.**

Type: C2 Muğla: Dirdev Dağ, alpine, 5 viii 1947, P.H. Davis 14034 (holo. K! iso. E!).

Nephelochloa orientalis Boiss., **E. Medit., VU.**

Poa davisii Bor, **E. Medit., LC.**

◆**Stipa cacuminis** H. Scholz & Parolly, **VU** [37].

Type: C2 Muğla: Sandras Dağı, Altınsivri, 2100 m., dwarf-shrub community, peridotite, 20 vi 1999, M. Doring, G. Parolly & D. Tolimir T 76a (Holo. B; iso. herb. Parolly).

RESULTS AND DISCUSSION

The results of the botanical investigations aiming to detect the endemic plants distributed in Muğla province showed that there are totally 414 endemic taxa within 45 families comprising 161 genera, 395 species, 13 subspecies and 6 varieties. Types specimens of 168 of these taxa were collected from Muğla province. Moreover, totally 110 taxa, growing in Muğla are categorized as rare endemics.

Endemic species usually can be observed on serpentine rocky islands around Fethiye and Marmaris and limestone bedrocks around Antalya.

From Muğla province, 10 families, richest in terms of the number of endemic taxa can be listed as; Asteraceae with 51 taxa (12.3%), Lamiaceae with 50 taxa (12.1%), Caryophyllaceae with 42 taxa (10.1%), Scrophulariaceae with 31 taxa (7.5%), Liliaceae with 30 taxa (7.2%), Fabaceae with 29 taxa (7.0%), Brassicaceae with 25 taxa (6.0%), Iridaceae with 16 taxa (3.9%), Apiaceae with 15 taxa (3.6%), and Rubiaceae with 14 taxa (3.4%) (Figure 1). Araştırma sonucu ulaştığımız en büyük ilk 10 familya listesi Türkiye Florasıyla hemen hemen aynıdır. This result is correlated mostly with Flora of Turkey.

The richest genera in terms of the number of the endemic taxa can be ordered as; *Verbascum* with 21 taxa (5.1%), *Centaurea* with 17 taxa (4.1%), *Crocus* with 11 taxa (2.7%), *Astragalus* with 10 taxa (2.4%), *Arenaria* with 10 taxa (2.4%), *Silene* with 10 taxa (2.4%), *Alyssum* with 9 taxa (2.2%), *Ophrys* with 9 taxa (2.2%), *Fritillaria* with 9 taxa (2.2%), *Galium* with 8 taxa (1.9%) and *Alkanna* with 8 taxa (1.9%) (Figure 2). The richest orchid area is Muğla region. Most of the *Ophrys*, *Orchis* and the endemic species are found in the region [45].

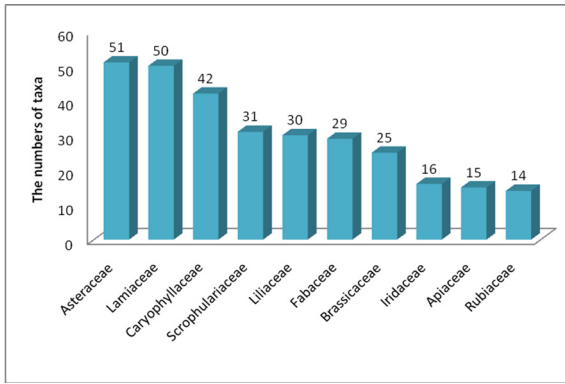


Figure 1. The numbers of endemic taxa in the richest families

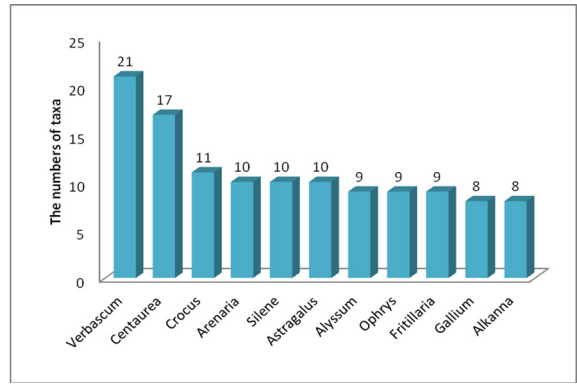


Figure 2. The numbers of endemic taxa in the richest genera

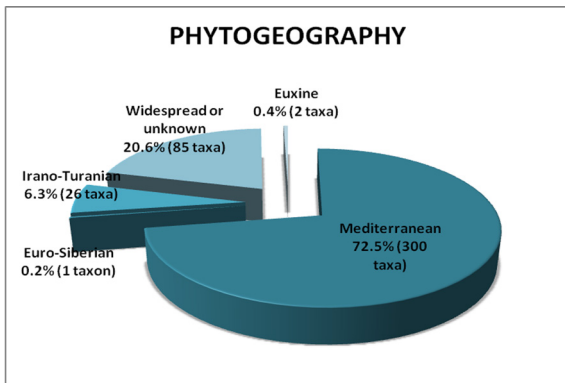


Figure 3. The phytogeography of endemic taxa in Muğla province

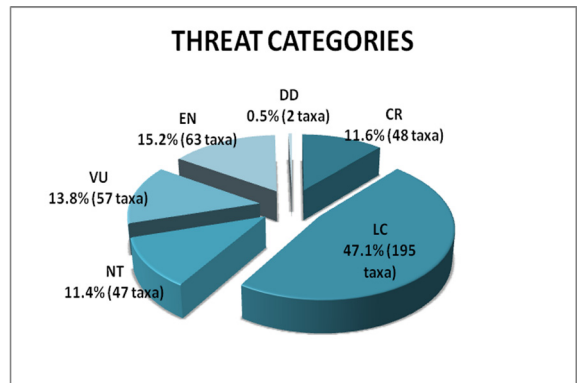


Figure 4. The threat categories of endemic taxa in Muğla province

The distribution of the endemic taxa of Muğla according to the phytogeographic regions are as follows: 72.5% (300 taxa) for Mediterranean, 6.3% (26 taxa) for Irano-Turanian, 0.4% (2 taxa) for Euxine, 0.2% (1 taxon) for Euro-Siberian, and 20.6% (85 taxa) for others (widespread or unknown) (Figure 3). Because of the diverse climatical and habitat conditions, all the phytogeographical elements in Turkey were represented in Muğla.

According to the threat categories, the 47.1% (195 taxa), 15.2% (63 taxa), 13.8% (57 taxa), 11.6% (48 taxa), 11.4% (47 taxa) and 0.5% (2 taxa) of the endemic taxa distributed in Muğla province are categorized as LC, EN, VU, CR, NT, and DD, respectively (Figure 4).

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