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STERGIOS CHOCHLIOUROS & THEODOROS GEORGIADIS

Additions to the flora of Mount Vermion (N Central Greece)

Abstract

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The number of vascular plants known from Mt Vermion equals 1035 taxa, of which 243 are added with the present paper as a result of field studies in 1994 and 1995. 884 taxa have a wider geographical distribution, 117 are Balkan endemics (18 are new records) and 34 are Greek endemics (8 are new records). *Taraxacum dialeptum, T. terenodes, T. viale, T. gracilens,* and *Sesleria albicans* subsp. *angustifolia*, endemics to the Balkans and Greece respectively, are also new records for N Central Greece.

Introduction

Recent studies of the flora of some mountains of N Greece such as Pinovo (Voliotis 1988), Voras (Voliotis 1975), Menikio (Karagiannakidou & Kokkini 1987), and Chortiatis (Karagiannakidou & Raus 1996) presented many new records, changed the known geographical distribution of many taxa, and so highlighted the need for further research on other mountains of N Greece. They also provided material for the phytogeographical comparison of the mountain floras of N Greece with those of S Greece, where mountains such as Timfristos (Dimitrellos & Christodoulakis 1995) and Killini (Dimopoulos & Georgiadis 1992) have thoroughly been studied in the past years.

The present paper deals with the flora of Mt Vermion, which is situated in N Central Greece between 40°24′ and 40°42′N, and 21°50′ and 22°10′E (Fig. 1). Due to its geographical position, Mt Vermion is of enormous floristic and phytogeographical interest. The large ravine of the Selliotis stream constitutes a natural border separating the mountain into a southern and a northern part. The highest peaks are situated in the northern part (Tsanakis (2052 m), Mavri Petra (2027 m), Palati (1895 m). Geologically, Mt Vermion is part of two large geotectonic zones: a) the Axios Zone and b) the Pelagonian Zone (Mountrakis 1985), with the main geological substrates being limestone, flysch, schist and local volcanic rocks. The orientation of Mt Vermion is N-S, the main orientation of the geological strata NW-SW (Philippson 1930).

A first inventory of the Mt Vermion flora was presented by Ganitsas (1939, 1955), later additions were contributed particularly by Rechinger (1939), Quézel & Contandriopoulos (1968), Franzén (1980), Strid (1986), Strid & Tan (1991), and Boratyński & al. (1992). A survey of the vegetation of Mt Vermion has been provided by Voliotis (1975). Although many botanists visited the mountain, a complete flora of Mt Vermion has never been published. The phytogeographical position of the mountain as well as the incomplete knowledge of its flora

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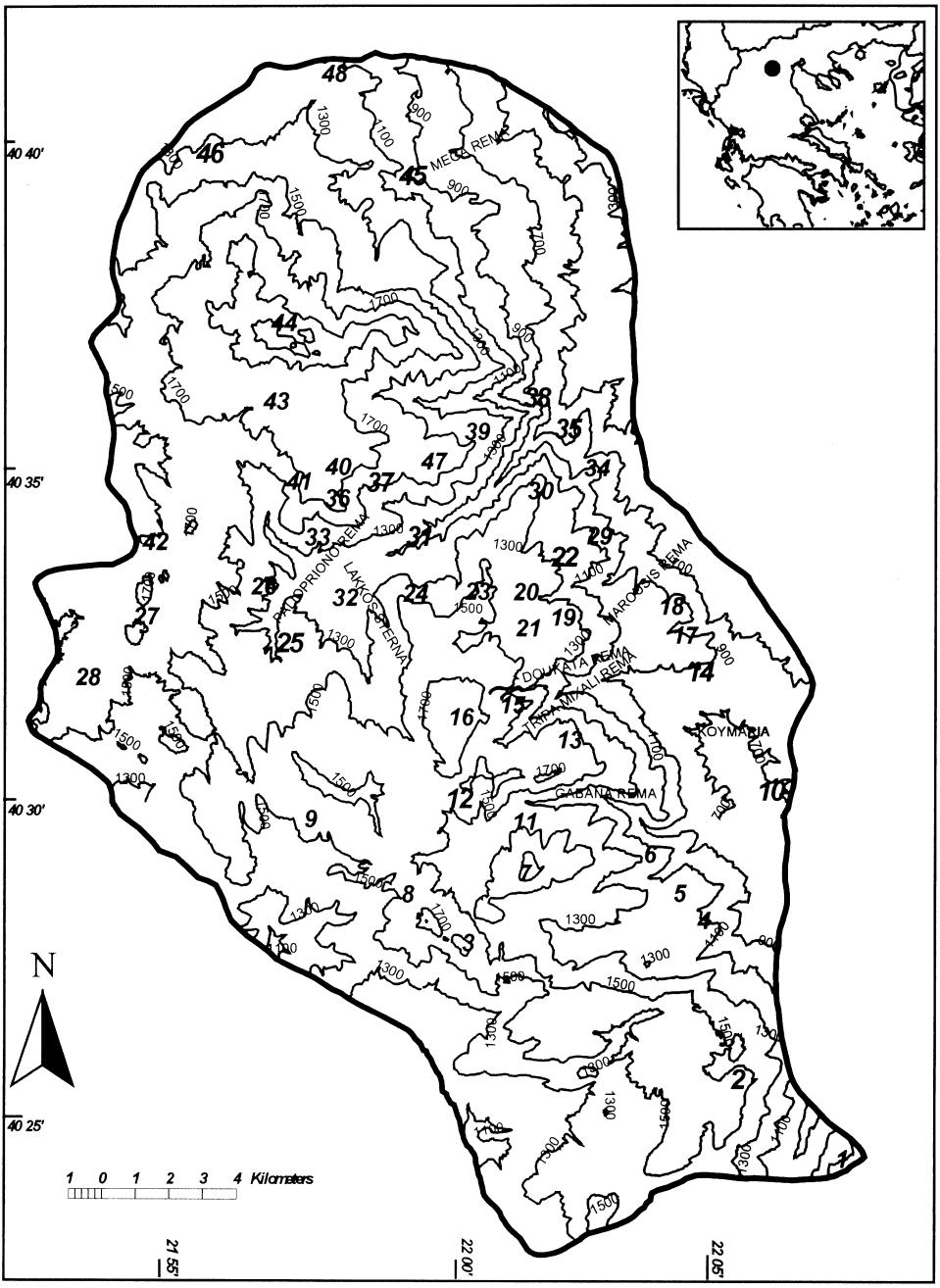


Fig. 1. Topographical map of Mt Vermion. – The numbers1–48 refer to the collecting localities listed in Tab. 1.

initiated our interest for a more complete floristic study. As a result of intensive field studies carried out in 1994 and 1995, further 243 taxa are added, increasing the number of known taxa of the Mt Vermion flora to 1035.

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Material and methods

The following list of taxa new to the flora of Mt Vermion is part of the PhD thesis of the first author, prepared at the Laboratory of Botany and Ecology of the University of Patras and entitled "Floristic and Phyto-sociological Research of Mount Vermion – An Ecological Approach".

The authors visited the Vermion mountain range during the flowering seasons of 1994 and 1995. Sample collections were made by the first author in a variety of biotopes, altitudinally and horizontally, within the different vegetation zones. The collecting localities are coded in the list of new records by numbers referring to the list of localities (Tab. 1) and the topographical map (Fig. 1). Herbarium specimens are deposited at the Botanical Museum of the University of Patras (UPA).

Determinations are mainly based on Tutin & al. (1968–80, 1993), Pignatti (1982), Strid (1986), and Strid & Kit Tan (1991). Taxonomic monographs were used for the determination of certain genera and species (e.g., Kokkini-Gounzkouni 1983, Tzanoudakis 1983, Zohary & Heller 1984).

The nomenclature follows Greuter & al. (1984–89), Strid (1986), Strid & Kit Tan (1991), Tutin & al. (1968–80, 1993), and, in case of the *Gramineae*, the determinations by H. Scholz (Berlin-Dahlem).

The following abbreviations and marks are used in the list of taxa:

Choch.	= leg. S. Chochliouros (UPA)
#	= Greek endemics
*	= Balkan endemics
/c	= common
/s	= scattered
/r	= rare

Tab. 1. Collecting localities (see also Fig. 1)

1. Arapis	13. Bara	25. Korifi	37. Vodi
2. Kastania	14. Megali Potamia	26. Chatzidenas	38. Seta
3. Gimmi Korifi	15. Katafliora	27. Angathi	39. Ipsoma Daveli
4. Ksirolivado	16. Arsoumbasi	28. Giona	40. Palati
5. Babanika	17. Paratiritirio	29. Kechagia chorafi	41. Ano Vermio
6. Makrirachi	18. Tsoulou	30. Ano Patoma	42. Arniotopos
7. Ksirovouni	19. Katiforia	31. Seliotikos lakos	43. Sideraki
8. Mavrolivado	20. Kato Vermion	32. Kentriko Vermio (Prionia)	44. Tsanakis
9. Gournes Tzoumagias	21. Akritas	33. Panagia	45. Tria Pigadia Rema
10. Megalo Kastri	22. Volada	34. Fitemeni	46. Kinotafion
11. Gavana	23. Pirgos	35. Bitzinies	47. Mountaki
12. Stournari	24. Sampali	36. Flambouro	48. Ano Grammatiko

Results

Including the 243 taxa that are recorded here for the first time from Mt Vermion, the known flora of this mountain consists of 1035 taxa of vascular plants. The proportions of the major taxonomic groups are given in Tab. 2, the numbers of Greek and Balkan endemics in Tab. 3.

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Tab. 2. Composition of the vascular plant flora of Mt Vermion.

Systematic unit	Families	Genera	Species	Subspecies	Species + Subspecies	%
Pteridophyta	7	9	13	2	15	1.45
Gymnospermae	4	5	6	4	10	0.97
Dicotyledoneae	68	295	643	148	791	76.42
Monocotyledoneae	10	83	191	28	219	21.16
Total	89	392	853	182	1035	100

Tab. 3. Records of taxa for the flora of Mt Vermion.

Taxa	Previous records	New records	Total	%
Greek endemics	26	8	34	3.28
Balkan endemics	99	18	117	11.30
Others	667	217	884	85.42
Total	792	243	1035	100

The 18 newly recorded Balkan endemics (Tab. 3) are: *Carlina frigida, Cirsium candelabrum, Taraxacum gracilens, Cephalaria ambrosioides, Astragalus mayeri, Lathyrus alpestris, Onobrychis alba* subsp. *calcarea, Scutellaria rubicunda* subsp. *adenotricha, Linum elegans, Sesleria albicans* subsp. *angustifolia, S. latifolia, S. rigida, Stipa thessala, Trisetum flavescens* subsp. *tenue, Galium rigidifolium*, *Haplophyllum coronatum, Allium goulimyi* and *Verbascum undulatum).*

The eight newly recorded Greek endemics (Tab. 3) are: *Centaurea affinis* subsp. *pallidior, Taraxacum albomarginatum, T. dialeptum, T. fibratum, T.* cf. *olympicola, T. terenodes, T. viale,* and *Marrubium velutinum.*

Of these, the Balkan endemics *Taraxacum gracilens* and *Sesleria albicans* subsp. *angustifolia*, and the Greek endemics *Taraxacum dialeptum, T. fibratum, T. terenodes*, and *T. viale* are, moreover, for the first time recorded for N Central Greece.

List of taxa new to the flora of Mt Vermion

Pteridophyta

Equisetaceae

Equisetum ramosissimum Desf. – 32. Wet places in torrents, 1100 m, *Choch. 3347*/r.

Dicotyledoneae

Apiaceae

Daucus carota L. – 38. Roadsides, 600 m, *Choch. 2229*/s.

Eryngium campestre L. – 47. Openings in *Pinus* forest, 1275 m, *Choch. 3266*/s.

Laserpitium siler subsp. *garganicum* (Ten.) Arcang. – 39. Limestone rocks, 1000 m, *Choch. 3253*/s.

Opopanax chironium (L.) Koch – 37. *Pinus* forest, 1400 m, *Choch. 3260*/s.

Petroselinum crispum (Mill.) A.W. Hill – 47. *Pinus* forest, 1300 m, *Choch. 2825*/s.

Pimpinella saxifraga L. – 31. Openings in *Pinus* forest, 1000 m, *Choch. 3028*/c.

P. tragium subsp. *polyclada* (Boiss. & Heldr.) Tutin – 32. *Pinus* forest, 1450 m, *Choch. 1297*/s.

Tordylium maximum L. – 33. Roadsides, 1250 m, *Choch. 1659*/c.

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Aristolochiaceae
Aristolochia rotunda L. – 38. Roadsides, 750 m, *Choch. 61*/r.

Asteraceae
Anthemis arvensis L. – 11. Pastures, 1400 m, *Choch. 2654*/c.
A. chia L. – 32. Openings in *Pinus* forest, 1200 m, *Choch. 610*/c.
Artemisia alba Turra – 47. *Pinus* forest, 1300 m, *Choch. 2840*/c.
A. vulgaris L. – 35. Roadsides, 1450 m, *Choch. 2502*/c.
Carlina corymbosa L. – 36. Pastures, 1500 m, *Choch. 3282*/c.
* *C. frigida* Boiss. & Heldr. – 32. Pastures, 1100 m, *Choch. 3401*/c.
# *Centaurea affinis* subsp. *pallidior* (Halacsy) Hayek – 33. Roadsides, 1250 m, *Choch. 1676*/r.
C. jacea L. – 48. Stream bed, 1400 m, *Choch. 2163*/s.
C. nervosa Willd. subsp. *nervosa* – 34. *Castanea* stand, 600 m, *Choch. 2268*/s.
C. solstitialis L. subsp. *solstitialis* – 45. Openings in evergreen scrub, 1000 m, *Choch. 3416*/s.
C. triumfettii All. – 17. Stony places, 1100 m, *Choch. 110*/s.
Chondrilla juncea L. – 2. Roadsides, 1250 m, *Choch. 3104*/c.
Cichorium intybus L. – 31. Roadsides, 1200 m, *Choch. 3014*/c.
* *Cirsium candelabrum* Griseb. – 9. Rocky pastures, 1500 m, *Choch. 3364*/c.
C. eriophorum (L.) Scop. – 32. Openings in *Pinus* forest, 1100 m, *Choch. 3402*/s.
Crepis neglecta L. subsp. *neglecta* – 21. Openings in *Fagus* forest, 1350 m, *Choch. 2371*/c.
C. rubra L. – 26. Pastures, 1400 m, *Choch. 3077*/c.
Crupina crupinastrum (Moris) Vis. – 6. Rocky places in *Pinus* forest, 1450 m, *Choch. 964*/s.
Eupatorium cannabinum L. – 35. Wet places, 1450 m, *Choch. 2509*/c.
Filago vulgaris Lam. – 28. Rocky places, 1200 m, *Choch. 3234*/c.
Inula conyza DC. – 35. Openings in *Fagus* and *Pinus* forest, 1450 m, *Choch. 2515*/s.
I. oculus-christi L. – 25. Openings in mixed *Fagus* forest, 1500 m, *Choch. 1559*/s.
Jurinea mollis (L.) Reichenb. – 6. Rocky places, 1450 m, *Choch. 978*/c.
Lactuca saligna L. – 37. Roadsides, 1300 m, *Choch. 2858*/s.
Lapsana communis L. subsp. *communis* – 33. Roadsides, 1250 m, *Choch. 1291*/c.
Petasites hybridus (L.) P. Gaertn. & al. subsp. *hybridus* – 32. Roadsides in wet places, 1050 m, *Choch. 3412*/c.
Prenanthes purpurea L. – 43. *Fagus* forest, 1650 m, *Choch. 3302*/s.
Pulicaria dysenterica (L.) Bernh. – 48. Wet places, 1250 m, *Choch. 2184*/s.
Senecio viscosus L. – 44. Rocky pastures, 2040 m, *Choch. 1852*/c.
Solidago virgaurea L. – 2. Roadsides, 950 m, *Choch. 3107*/s.
Sonchus asper (L.) Hill subsp. *asper* – 25. Roadsides, 1350 m, *Choch. 3288*/s.
Tanacetum corymbosum (L.) Schultz – 25. Mixed *Fagus* and *Abies* forest, 1550 m, *Choch. 1613*/s.
T. vulgare L. – 48. Pastures, 1250 m, *Choch. 2186*/c.
Taraxacum albomarginatum A. J. Richards – 16. Rocky places, 1700 m, *Choch. 68*/c.
T. dialeptum Sonck – 19. Openings in *Fagus* forest, 1400 m, *Choch. 165*/c.
T. fibratum Sonck – 15. Stony places, 1600 m, *Choch. 438*/r.
* *T. gracilens* Dahlst. – 21. Pastures, 1350 m, *Choch. 187*/r.
T. minimum (Guss.) N. Terracc. – 18. Rocky pastures, 1068 m, *Choch. 114*/c.
T. cf. *olympicola* Sonck – 17. Pastures, 700 m, *Choch. 45*/r.
T. serotinum (Waldst. & Kit.) Poir. – 37. *Pinus* forest, 1300 m, *Choch. 2854*/c.
T. terenodes Sonck – 30. Pastures, 1500 m, *Choch. 247*/r.
T. viale Sonck – 30. Pastures, 1500 m, *Choch. 53*/r.
Telekia speciosa (Schreb.) Baumg. – 32. Wet places, 1050 m, *Choch. 3398*/c.
Tragopogon porrifolius L. subsp. *porrifolius* – 32. Pastures, 1200 m, *Choch. 626*/c.
Tussilago farfara L. – 22. Wet places, 1650 m, *Choch. 3124*/c.
Xeranthemum inapertum (L.) Mill. – 2. Rocky slopes, 1230 m, *Choch. 3184*/s.

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Betulaceae
Betula pendula Roth – 32. Roadsides, 1050 m, *Choch. 3405*/r.

Boraginaceae
Anchusa officinalis L. – 33. Pastures, 1200 m, *Choch. 621*/c.
Asperugo procumbens L. – 24. Rocky pastures, 1600 m, *Choch. 75*/r.
Cynoglossum officinale L. – 17. Rocky pastures, 1700 m, *Choch. 5*/c; 27. openings in *Pinus* forest, 850 m, *Choch. 480*/c.

Caryophyllaceae
Holosteum umbellatum L. – 32. Openings in *Pinus* forest, 1200 m, *Choch. 568*/s.
Minuartia globulosa (Labill.) Schinz & Thell. – 4. Scrubs, 1150 m, *Choch. 3357*/c.
M. mesogitana (Boiss.) Hand.-Mazz. – 15. Rocky pastures, 1500 m, *Choch. 1500*/c.
M. setacea (Thuill.) Hayek – 2. Limestone rocks, 1300 m, *Choch. 3182*/c.
M. verna subsp. *attica* (Boiss. & Spruner) Graebn. – 8. Pastures, 1600 m, *Choch. 825*/s.
M. verna subsp. *collina* (Neilr.) Domin – 44. Rocky pastures, 1900 m, *Choch. 1823*/s.
Petrorhagia illyrica (Ard.) P. W. Ball & Heywood subsp. *illyrica* – 19. Mixed *Fagus* and *Pinus* forest, 1350 m, *Choch. 1237*/c; 28. rocky pastures, mixed *Fagus* and *Pinus* forest, 1600 m, *Choch. 2319*/c.
Silene atropurpurea (Griseb.) Greuter & Burdet – 15. Limestone rocks, 1600 m, *Choch. 446*/c.
S. latifolia subsp. *alba* (Mill.) Greuter & Burdet – 39. *Fagus* forest, 1200 m, *Choch. 2581*/c.
S. subconica Friv. – 1. Limestone rocks, 1230 m, *Choch. 3203*/c.
Velezia rigida L. – 4. Scrubs, 1150 m, *Choch. 3358*/s.

Chenopodiaceae
Chenopodium botrys L. – 28. Roadsides, 1650 m, *Choch. 3345*/c.

Cistaceae
Fumana procumbens (Dunal) Gren. & Godron – 28. Rocky pastures, 1600 m, *Choch. 1215*/s.

Convolvulaceae
Convolvulus arvensis L. – 26. *Pinus* forest, 1200 m, *Choch. 3041*/s; 32. roadsides in wet places, 1300 m, *Choch. 1340*/s.
C. cantabrica L. – 28. Rocky pastures, 1200 m, *Choch. 3238*/c.
Cuscuta approximata Bab. – 21. Rocky pastures, 1300 m, *Choch. 2382*/s.

Corylaceae
Carpinus betulus L. – 14. Torrent banks, 850 m, *Choch. 2777*/r.

Crassulaceae
Sedum amplexicaule subsp. *tenuifolium* (Sm.) Greuter – 1. Rocky places, 1300 m, *Choch. 3138*/c.
S. magellense Ten. – 41. Openings in *Pinus* forest, 1650 m, *Choch. 3311*/c.

Cruciferae
Alyssum desertorum Stapf – 17. Rocky pastures, 1100 m, *Choch. 94*/s.
A. strigosum Banks & Sol. – 17. Rocky pastures, 850 m, *Choch. 25*/s.
Arabidopsis thaliana (L.) Heynh. – 29. Openings in *Pinus* forest, 1400 m, *Choch. 274*/s.
Arabis sagittata (Bertol.) DC. – 33. Roadsides, 1200 m, *Choch. 1670*/c.
Cardaria draba (L.) Desv. – 41. Openings in *Pinus* forest, 1500 m, *Choch. 727*/s.
Clypeola jonthlaspi L. – 18. Rocky pastures, 1068 m, *Choch. 122*/s.
Erophila verna (L.) Chevall. subsp. *verna* – 7. Rocky pastures, 1750 m, *Choch. 1068*/c.
Erysimum cuspidatum (M. Bieb.) DC. – 38. Roadsides, 500 m, *Choch. 317*/s.

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Hesperis laciniata All. subsp. *laciniata* – 6. Limestone rocks, 1450 m, *Choch. 3195*/c.
H. theophrasti Borbás – 39. Limestone rocks, 1300 m, *Choch. 3128*/r.
Hornungia petraea (L.) Reichenb. – 20. Pastures, 1500 m, *Choch. 3126*/c.
Matthiola fruticulosa subsp. *valesiaca* (Gaudin) P.W. Ball – 10. Limestone rocks, 1300 m, *Choch. 3165*/c.
Rorippa prolifera (Heuff.) Neilr. – 13. Pastures, 1550 m, *Choch. 942*/s.
Thlaspi perfoliatum L. – 19. Openings in *Fagus* forest, 1300 m, *Choch. 166*/s.

Dipsacaceae
* *Cephalaria ambrosioides* (Sm.) Roem. & Schult. – 37. Openings in *Pinus* forest, 1500 m, *Choch. 3276*/s.

Euphorbiaceae
Euphorbia seguieriana Neck. subsp. *seguieriana* – 1. Pastures, 1230 m, *Choch. 3189*/r.
E. stricta L. – 26. *Pinus* forest, 1250 m, *Choch. 3046*/c.

Fabaceae
* *Astragalus mayeri* Micevski – 3. Rocky pastures, 1650 m, *Choch. 1097a*/c; 7. rocky pastures, 1750 m, *Choch. 1042*/c.
Hippocrepis glauca Ten. – 26. Pastures, 1630 m, *Choch. 3322*/s.
* *Lathyrus alpestris* (Waldst. & Kit.) Celak. – 30. *Fagus* and *Pinus* forest, 1450 m, *Choch. 242*/s.
L. cicera L. – 17. Rocky places, 1000 m, *Choch. 139*/c; 38. roadsides, 500 m, *Choch. 331*/c.
L. niger (L.) Bernh. – 30. *Fagus* forest, 1450 m, *Choch. 3258*/c.
L. setifolius L. – 17. Rocky places, 850 m, *Choch. 31a*/s.
L. sphaericus Retz. – 17. Rocky places, 850 m, *Choch. 31b*/c.
Medicago falcata L. – 26. *Pinus* forest, 1250 m, *Choch. 3047*/c; 36. roadsides, 1400 m, *Choch. 1694*/c.
* *Onobrychis alba* subsp. *calcarea* (Vandas) P. W. Ball – 39. Limestone rocks, 1240 m, *Choch. 3378*/c.
Ononis pusilla L. – 27. *Pinus* forest, 1520 m, *Choch. 3342*/r.
O. spinosa L. subsp. *spinosa* – 28. Rocky pastures, 1300 m, *Choch. 1243*/c; 48. *Fagus* forest, 1600 m, *Choch. 2164*/c.
Trifolium arvense L. – 27. *Pinus* forest, 1510 m, *Choch. 3335*/c.
T. campestre Schreb. – 33. Wet places, 1100 m, *Choch. 2931*/c.
T. ochroleucon Huds. – 25. *Fagus* forest, 1700 m, *Choch. 2129*/c; 47. *Pinus* forest, 1500 m, *Choch 1731*/c.
T. scabrum L. – 27. Pastures, 1550 m, *Choch. 3337*/c.
Vicia sativa subsp. *nigra* (L.) Ehrh. – 17. Rocky places, 1100 m, *Choch. 103a*/c.

Geraniaceae
Geranium columbinum L. – 33. Roadsides, 300 m, *Choch. 641*/r.
G. macrostylum Boiss. – 7. Rocky pastures, 1500 m, *Choch. 1018*/c.
G. robertianum subsp. *purpureum* (Vill.) Nyman – 30. *Fagus* forest, 1350 m, *Choch. 2876*/c.

Guttiferae
Hypericum maculatum Crantz – 19. *Fagus* forest, 1500 m, *Choch. 1380*/c.
H. perfoliatum L. – 22. Rocky places with *Juniperus oxycedrus*, 1500 m, *Choch. 2413*/c.

Labiatae
Ajuga chamaepitys subsp. *chia* (Schreb.) Arcang. – 5. *Pinus* forest, 1400 m, *Choch. 1001*/c.
A. orientalis L. – 38. *Castanea* stand, 500 m, *Choch. 332*/c.
Marrubium peregrinum L. – 18. Pastures, 1100 m, *Choch. 3360*/s.

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M. velutinum Sm. – 27. Rocky pastures, 1450 m, *Choch. 1205*/c.
Mentha longifolia (L.) Huds. – 24. *Fagus* forest, 1250–1400 m, *Choch. 2742*/s.
M. pulegium L. – 48. *Fagus* forest, 1250 m, *Choch. 2181*/s.
Phlomis samia L. – 48. Roadsides in *Fagus* forest, 1350 m, *Choch. 3386*/r.
Salvia fruticosa Mill. – 32. Openings in *Quercus* forest, 1000 m, *Choch. 3454*/c.
Satureja grandiflora (L.) Scheele – 24. *Fagus* forest, 1650 m, *Choch. 1490*/c.
S. montana L. subsp. *montana* – 47. *Pinus* forest, 1300 m, *Choch. 3256*/c.
S. nepeta (L.) Scheele – 34. *Castanea* stand, 700 m, *Choch. 2269*/s; 37. *Pinus* forest, 1300 m, *Choch 2863*/s.
* *Scutellaria rubicunda* subsp. *adenotricha* (Boiss. & Heldr.) Greuter & Burdet – 38. Roadsides, 500 m, *Choch. 2235*/r.
Stachys recta L. – 47. *Pinus* forest, 1300 m, *Choch. 3268*/c.
Teucrium capitatum L. – 21. Openings in *Fagus* forest, 1400 m, *Choch. 2366*/c; 47. *Pinus* forest, 1300 m, *Choch. 2832*/c.
Thymus cherlerioides Vis. – 3. Rocky pastures, 1750 m, *Choch. 1088*/s.

Linaceae
Linum aroanium Boiss. & Orph. – 47. Openings in *Pinus* forest, 1300 m, *Choch. 3269*/r.
* *L. elegans* Boiss. – 39. Limestone rocks, 1400 m, *Choch. 3251*/c.

Malvaceae
Lavatera thuringiaca subsp. *ambigua* (DC.) Nyman – 38. Roadsides, 500 m, *Choch. 2253*/c.
Malva cretica Cav. subsp. *cretica* – 18. Pastures, 1100 m, *Choch. 3362*/s.
M. moschata L. – 32. *Pinus* forest, 1450 m, *Choch. 1305*/c.

Onagraceae
Epilobium angustifolium L. – 32. Roadsides, 1400–1450 m, *Choch. 1324*/s.

Oxalidaceae
Oxalis acetosella L. – 19. *Fagus* forest, 1500 m, *Choch. 3392*/c.

Papaveraceae
Papaver argemone L. – 32. Openings in *Pinus* forest, 1250 m, *Choch. 571*/c.
P. rhoeas L. – 32. Openings in *Pinus* forest, 1250 m, *Choch. 1281*/c.

Plantaginaceae
Plantago argentea Chaix – 43. Rocky pastures, 1600 m, *Choch. 3331*/s.

Polygalaceae
Polygala comosa Schkuhr – 21. Pastures, 1350 m, *Choch. 183*/s.

Polygonaceae
Fallopia convolvulus (L.) Á. Löve – 25. Roadsides, 1500 m, *Choch. 1576*/r.
Polygonum aviculare L. – 41. Wet places, 1850 m, *Choch. 3293*/s.

Primulaceae
Cyclamen hederifolium Aiton – 14. *Pinus* forest, 800 m, *Choch. 2788*/c.

Ranunculaceae
Adonis annua subsp. *cupaniana* (Guss.) C. Steinb. – 18. Rocky pastures, 1070 m, *Choch. 115*/s.
Anemone blanda Schott & Kotschy – 19. Openings in *Fagus* forest, 1100 m, *Choch. 211*/c.
A. pavonina Lam. – 17. Rocky places, 1000 m, *Choch. 152*/c.
Ranunculus millefoliatus Vahl – 19. Openings in *Fagus* forest, 1300 m, *Choch. 157*/c; 30. pastures, 1500 m, *Choch. 48*/c.

Resedaceae
Reseda lutea L. subsp. *lutea* – 28. Rocky pastures, 1700 m, *Choch. 3346*/s.

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Rhamnaceae
Frangula rupestris (Scop.) Schur – 39. Limestone rocks, 1250 m, *Choch. 3254*/c.

Rosaceae
Cotoneaster integerrimus Medik. – 41. Limestone rocks, 1700 m, *Choch. 1976*/r.
Malus dasyphylla Borkh. – 10. Stony meadows, 1300 m, *Choch. 3163*/r.
Potentilla inclinata Vill. – 25. Pastures, 1400 m, *Choch. 1526*/s.
P. reptans L. – 26. Roadsides 1250 m, *Choch. 3064*/s; 41. wet places, 1600 m, *Choch. 1941*/s.
Prunus cocomilia Ten. – 32. Openings in *Pinus* forest, 1050 m, *Choch. 3409*/c.
Sorbus domestica L. – 43. Openings in *Fagus* forest, 1600 m, *Choch. 3306*/c.

Rubiaceae
Crucianella angustifolia L. – 10. Stony meadows, 1300 m, *Choch. 3177*/s.
Cruciata pedemontana (Bellardi) Ehrend. – 32. Meadows, 1200 m, *Choch. 3232*/r.
* *Galium rigidifolium* Krendl – 36. *Pinus* forest, 1400 m, *Choch. 1723*/c.
Sherardia arvensis L. – 17. Pastures, 1000 m, *Choch. 36a*/c.

Rutaceae
* *Haplophyllum coronatum* Griseb. – 38. Roadsides, 1000 m, *Choch. 655*/r.

Salicaceae
Salix alba L. – 32. Torrent banks, 1150 m, *Choch. 2015*/r.
S. cinerea L. – 35. Openings in *Fagus* forest, 1350 m, *Choch. 2547*/c.

Saxifragaceae
Saxifraga bulbifera L. – 41. Limestone rocks, 1750 m, *Choch. 3218*/c.
S. graeca L. – 19. Openings in *Fagus* forest, 1050 m, *Choch. 209*/s; 23. pastures, 1500 m, *Choch. 339*/s.

Scrophulariaceae
Chaenorhinum rubrifolium (DC.) Fourr. subsp. *rubrifolium* – 10. Limestone rocks, 1300 m, *Choch. 3171*/c.
Euphrasia salisburgensis Hoppe – 16. Wet meadows, 1800 m, *Choch. 3393*/c.
Verbascum blattaria L. – 1. Rocky places, 1250 m, *Choch. 3202*/c.
* *V. undulatum* Lam. – 2. Roadsides, 1300 m, *Choch. 3088*/c.
Veronica austriaca L. subsp. *austriaca* – 40. Pastures, 1650 m, *Choch. 685*/s.

Solanaceae
Atropa bella-donna L. – 25. Clearings in *Pinus* forest, 1650 m, *Choch. 1564*/r.

Valerianaceae
Valeriana italica Lam. – 39. Limestone rocks, 1200 m, *Choch. 3454*/r.

Verbenaceae
Verbena officinalis L. – 34. *Castanea* stand, 700 m, *Choch. 2273*/c.

Violaceae
Viola alba subsp. *dehnhardtii* (Ten.) W. Becker – 22. Rocky places, 1650 m, *Choch. 3131a*/c.
V. jordanii Hanry – 17. Rocky places, 1150 m, *Choch. 101*/r.
V. sieheana W. Becker – 48. *Fagus* forest, 1250 m, *Choch. 3247*/r.

Monocotyledoneae

Amaryllidaceae
Narcissus poeticus subsp. *radiiflorus* (Salisb.) Baker – 41. Openings in *Pinus* forest, 1750 m, *Choch. 3213*/c.

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Cyperaceae

Carex polyphylla Kar. & Kir. – 32. Torrent banks, 1150 m, *Choch. 3454*/c.

Scirpus holoschoenus L. – 16. Wet places, 1600 m, *Choch. 3388*/c.

Gramineae

Agrostis gigantea Roth – 42. Wet places, 1600 m, *Choch. 3448*/c.

Avena barbata Link – 38. Roadsides, 500 m, *Choch. 2240*/s.

Brachypodium distachyon (L.) P. Beauv. – 32. Pastures, 1250 m, *Choch. 3453*/c.

B. pinnatum (L.) P. Beauv. – 26. Pastures, 1350 m, *Choch. 3436*/c; 30. *Fagus* forest, 1650 m, *Choch. 3435*/c.

B. rupestre (Host) Roem. & Schult. – 8. *Fagus* forest, 1600 m, *Choch. 960*/c; 11. scrub with *Juniperus oxycedrus,* 1400 m, *Choch. 2620*/c.

B. sylvaticum (Huds.) P. Beauv. – 48. *Fagus* forest, 1300 m, *Choch. 2195*/s.

Briza media subsp. *elatior* (Sm.) Rohlena – 19. *Fagus* forest, 1350 m, *Choch. 2324*/s; 24. *Pinus* forest, 1650 m, *Choch. 1451*/s.

Bromus benekenii (Lange) Trimen – 34. *Castanea* stand, 950 m, *Choch. 3432*/c.

B. cappadocicus Boiss. & Balansa subsp. *cappadocicus* – 9. Rocky pastures, 1600 m, *Choch. 908*/s.

B. hordeaceus subsp. *divaricatus* (Bonnier & Layens) Kerguélen – 41. Pastures, 1550 m, *Choch. 740*/c.

B. japonicus Thunb. – 28. Rocky places, 1600 m, *Choch. 1247b*/r.

Calamagrostis epigejos (L.) Roth – 35. *Pinus* forest, 1350 m, *Choch. 2526*/s.

C. pseudophragmites (Haller) Koeler – 41. *Pinus* forest, 1500 m, *Choch. 2064*/s.

Catabrosa aquatica (L.) P. Beauv. – 16. Wet places, 1620 m, *Choch. 3434a*/c.

Dasypyrum villosum (L.) P. Candargy – 2. *Fagus* forest, 1200 m, *Choch. 3089*/c; 41. wet places, 1600 m, *Choch. 1939*/c.

Dichanthium ischaemum (L.) Roberty – 34. *Castanea* stand, 700 m, *Choch. 2267*/s.

Elymus caninus (L.) L. – 30. *Fagus* forest, 1400 m, *Choch. 2885*/s; 32. *Pinus* forest, 1150 m, *Choch. 2014*/s.

Elytrigia intermedia (Host) Nevski – 11. Rocky places, 1100 m, *Choch. 2590*/s; 36. *Pinus* forest, 1400 m, *Choch. 1726*/s.

E. repens (L.) Nevski – 48. Roadsides, 1400 m, *Choch. 2171*/s.

Festuca arundinacea subsp. *fenas* (Lag.) Arcang. – 41. Wet places, 1600 m, *Choch. 2817*/c.

F. heterophylla Lam. – 26. *Pinus* forest, 1600 m, *Choch. 3425*/c.

F. rechingeri Markgr.-Dannenb. – 41. *Pinus heldreichii* forest, 1970 m, *Choch. 3439*/c.

F. rivularis Boiss. – 27. *Pinus* forest, 1400 m, *Choch. 1195a*/c.

F. rubra subsp. *thessalica* Markgr.-Dannenb. – 35. *Fagus* forest, 1250 m, *Choch. 2500b*/c.

Helictotrichon convolutum (C. Presl) Henrard – 15. *Fagus* forest, 1550 m, *Choch. 478*/c.

Holcus lanatus L. – 28. Wet places, 1450 m, *Choch. 3445*/c.

Hordelymus europaeus (L.) Jessen – 32. *Fagus* forest, 1270 m, *Choch. 3428*/c.

Hordeum leporinum Link – 12. Rocky pastures, 1600 m, *Choch. 923*/s.

H. vulgare L. – 41. Roadsides, 1600 m, *Choch. 2073*/s.

Koeleria nitidula Velen. – 36. *Pinus* forest, 1350 m, *Choch. 1701*/c; 44. rocky meadows, 1950 m, *Choch. 1820*/c.

K. pyramidata (Lam.) P. Beauv. – 41. *Pinus heldreichii* forest, 1970 m, *Choch. 3452*/s.

Lolium perenne L. – 42. Wet places, 1600 m, *Choch. 3449*/c.

L. rigidum Gaudin – 16. Wet places, 1620 m, *Choch. 3434b*/s.

Melica transsilvanica Schur – 41. Limestone rocks, 1600 m, *Choch. 2812*/c.

M. uniflora Retz. – 38. *Castanea* stand, 700 m, *Choch. 3418*/c.

Phleum phleoides (L.) H. Karst. – 8. Openings in *Fagus* forest, 1400–1600 m, *Choch. 950*/s.

Ph. pratense subsp. *bertolonii* (DC.) Bornm. – 25. Openings in *Fagus* forest, 1500 m, *Choch. 2685*/r.

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Poa angustifolia L. – 32. Pastures, 1200 m, *Choch. 613*/c.
P. hybrida Gaudin – 47. *Fagus* forest, 1370 m, *Choch. 3451*/c.
P. nemoralis L. – 30. Pastures, 1350 m, *Choch. 2883*/c.
* *Sesleria albicans* subsp. *angustifolia* (Hackel & G. Beck) Deyl – 42. Pastures, 1650 m, *Choch. 3437*/c.
* *S. latifolia* (Adamović) Degen – 12. Rocky places, 1700 m, *Choch. 928*/s.
* *S. rigida* Reichenb. – 26. Pastures, 1630 m, *Choch. 3442*/c.
Stipa rechingeri Martinovský – 16. Rocky place, 1870 m, *Choch. 1179*/c; 27. openings in *Pinus* forest, 1400 m, *Choch. 499*/c.
* *S. thessala* Hausskn. – 28. Pastures, 1500 m, *Choch. 3450*/s.
* *Trisetum flavescens* subsp. *tenue* (Form.) Strid – 41. Limestone rocks, 1990 m, *Choch. 1816*/c.

Juncaceae
Juncus bufonius L. – 42. Pastures, 1650 m, *Choch. 3319*/c.

Liliaceae
Allium flavum subsp. *tauricum* (Reichenb.) K. Richt. – 41. limestone rocks, 1700 m, *Choch. 1969*/s; 47. *Pinus* forest, 1300 m, *Choch. 2834*/s.
* *A. goulimyi* Tzanoud. – 39. Limestone rocks, 1250 m, *Choch. 3370*/r.
A. moschatum L. – 46. Limestone rocks, 1480 m, *Choch. 3316*/s.
A. sphaerocephalon L. subsp. *sphaerocephalon* – 36. Openings in *Pinus* forest, 1400 m, *Choch. 1728*/s.
A. stamineum Boiss. – 11. Rocky places, 1350 m, *Choch. 26347*/s; 16. stony pastures, 1700 m, *Choch. 3387*/s.
A. vineale L. – 32. Pastures, 1200 m, *Choch. 3329*/c.
Ornithogalum montanum Ten. – 17. Pastures, 850 m, *Choch. 22*/c.
O. sphaerocarpum A. Kern. – 33. Pastures, 1200 m, *Choch. 3284*/c.
Scilla autumnalis L. – 9. Pastures, 1650 m, *Choch. 3328*/s.

Orchidaceae
Epipactis palustris (L.) Crantz – 41. Wet places, 1600 m, *Choch. 2819*/s.
Gymnadenia conopsea (L.) R. Br. – 41. Wet places, 1650 m, *Choch. 3315*/c.
Himantoglossum hircinum (L.) Spreng. – 37. *Pinus* forest, 1500 m, *Choch. 3272*/c.
Orchis tridentata Scop. – 15. Rocky places, 1600 m, *Choch. 462*/c.
O. ustulata L. – 7. Rocky meadows, 1650 m, *Choch. 1359*/r.
Limodorum abortivum (L.) Swartz – 47. *Pinus* forest, 1300 m, *Choch. 3257*/r.

Thyphaceae
Typha latifolia L. – 32. Wet places, 1000 m, *Choch. 3399*/c.

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