

The vascular flora of the Vučje hill near Pirot city (Eastern Serbia)

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Abstract:

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As a result of the floristic investigations of the Vučje hill carried out between 2008 and 2010, 534 plant taxa belonging to 277 genera and 67 plant families were recorded. Phytogeographical analysis showed that the species of eurasian area type are the most abundant ones. There are 10 endemic taxa in flora of investigated area. The hemicriptophytic character of flora with significant contribution of therophytes and geophytes, is established by analyzing the presence of plant life forms. 31 species are listed as protected or strictly protected in national legislature, while some of them are of international importance for conservation.

Key words: endemic, flora, Pirot city, Vučje hill

Introduction

The Vučje hill (1188 m) is situated in eastern Serbia, 8 km SE of Pirot city, above the Krupac village (**Fig. 1**). This is the part of Mt. Vidlič, westernmost part of the mountain system Stara planina. The hill is elongated in the southeastern-northwestern direction. In contrast to other regions of mountain system Stara planina, Mt. Vidlič are represented by unique geological structure and climate conditions. The geological structure of the most part of Mt. Vidlič is represented by limestone, while other Serbian parts of Stara planina are built of silicate (Vidanović, ed., 1960). The pedological substrate is consisted of reddish soil tiller and mountain soil. The climate of this area is transitional humid continental, between dry climate of Pirot region and wet climate on Mt. Stara planina

(Vidanović, ed., 1960). Although the flora of this part of Mt. Stara planina was investigated by Pančić (1884) and Adamović (1911), it has not been well known. The Vučje hill flora is not investigated up to now.

Materials and methods

The flora of Vučje hill were studied in the period between 2008 and 2010. Herbarium specimens are deposited at the Herbarium Moesiacum (HMN).

Determination of plant material was carried out using the keys from the regional flora reference (Josifović, ed. 1970-1977; Velčev, ed. 1982-1989). The nomenclature follows Med-Checklist (Greuter et al., 1984-1989) and Flora Europaea (Tutin et al., eds., 1964-1980).

For the area types classification Meusel et al. (1965, 1978), Meusel and Jäger (1992) and Stevanović (1992) were used.

Life forms were determined according to Mueller-Dombois and Ellenberg (1974) and Stevanović (1992a).

Results

As a result of the floristic investigations of Vučje hill in eastern Serbia, 534 plant taxa belonging to 277 genera and 67 families were recorded (**Tab. 1**).

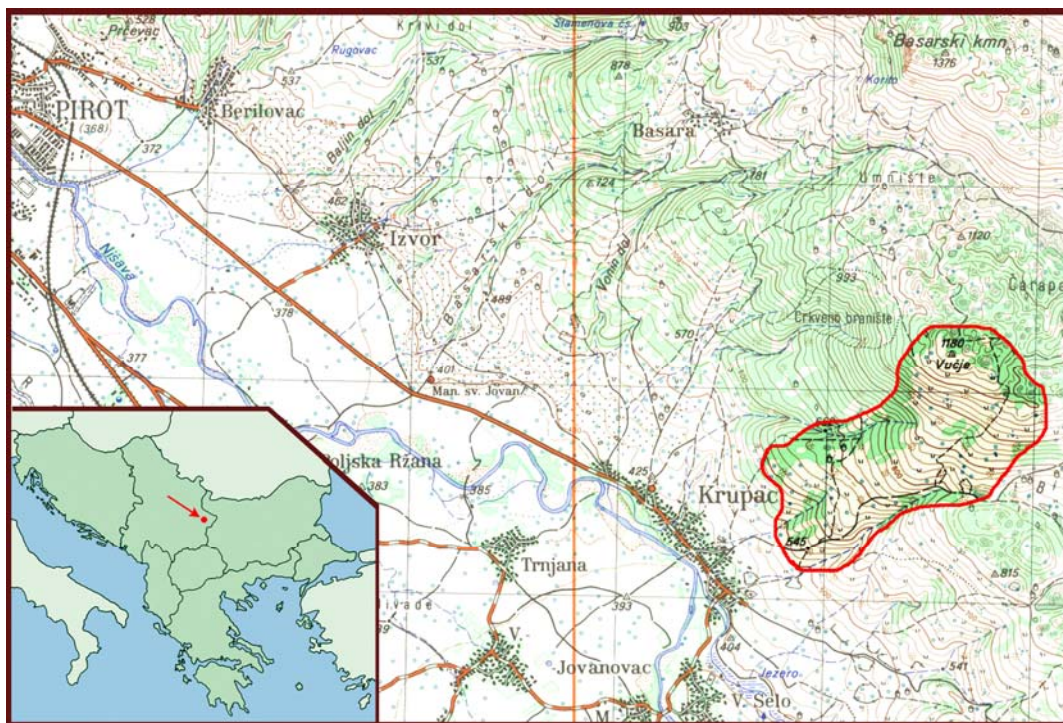


Figure 1. Geographical position of investigated area

Table 1. List of vascular flora with life forms and area-types

Taxa	Life form	Area type
POLYPODIOPSIDA		
Aspleniaceae		
<i>Asplenium ceterach</i> L.	semp Ch herb caesp	Me
<i>Asplenium ruta-muraria</i> L.	semp Ch herb caesp	Hol
<i>Asplenium trichomanes</i> L.	semp Ch herb semiros	Csm
Dryopteridaceae		
<i>Dryopteris filix-mas</i> (L.) Schoot	a Meg G rhiz	Hol
Hypolepidaceae		
<i>Pteridium aquilinum</i> (L.) Kuhn	a Meg-Alt G rhiz	Csm
Polypodiaceae		
<i>Polypodium vulgare</i> L.	Mac fo Semp G rhiz	Hol
Woodsiaceae		
<i>Cystopteris fragilis</i> (L.) Bernh.	fo dec Ch herb semiros	Csm

Taxa	Life form	Area type
PINOPSIDA		
Cupressaceae		
<i>Juniperus communis</i> L.	a semp NP scap	Hol
MAGNOLIOPSIDA		
Acanthaceae		
<i>Acanthus balcanicus</i> Heywood & I.B.K.Richardson	a Meg-Alt H scap semiros	EAs
Aceraceae		
<i>Acer campestre</i> L.	fo dec Mes P scap	EAs
<i>Acer hyrcanum</i> Fischer & C. A. Meyer subsp. <i>intermedium</i> (Pančić) Bornm.	fo dec Mes P scap	Me
<i>Acer monspessulanum</i> L.	fo dec Mi-Mes P scap	Med-smed
Apiaceae		
<i>Aegopodium podagraria</i> L.	v-a Mes-Meg H scap/G rhiz	EAs
<i>Angelica sylvestris</i> L.	a Mac-Alt H scap	Bor
<i>Bupleurum flavicans</i> Boiss. & Heldr.	a Mi-Mes T scap	Med-smed
<i>Bupleurum praealtum</i> L.	v-a Mi-Mes T scap	Med-smed
<i>Bupleurum veronense</i> Turra	a Mes T scap	EAs
<i>Caucalis platycarpus</i> L.	v-a Mes T scap	EAs
<i>Chaerophyllum aureum</i> L.	a Mes-Alt H scap	EAs
<i>Daucus carota</i> L.	a Meg T/H scap	Hol
<i>Eryngium campestre</i> L.	v-a Mes-Meg H semiros	EAs
<i>Eryngium palmatum</i> Pančić et Vis.	a Mes-Meg H scap semiros	Med-smed
<i>Freyera cynapoides</i> (Guss.) Griseb.	v-a Mes-Mac G bulb	EAMt
<i>Orlaya grandiflora</i> (L.) Hoffm.	a Mes T scap	EAs
<i>Scandix pecten-veneris</i> L.	v-a Mes T scap	Med-smed
<i>Smyrniium perfoliatum</i> L.	a Mes-Meg H scap	Med-smed
<i>Torilis arvensis</i> (Hudson) Link	a Meg T scap	Csm
<i>Torilis heterophylla</i> Guss.	a Mes T scap	Med-smed
<i>Torilis leptophylla</i> (L.) Reichenb.	a Mes T scap	EAs
Apocynaceae		
<i>Vinca herbacea</i> Waldst. et Kit.	v-a Mi-Mes Ch suff rept	P
Araliaceae		
<i>Hedera helix</i> L.	aut fo semp Alt S lig	Me
Aristolochiaceae		
<i>Aristolochia clematidis</i> L.	v-a Mes-Meg G rad	EAs
<i>Asarum europaeum</i> L.	fo semp Ch herb rept	EAs
Asclepiadaceae		
<i>Vincetoxicum hirsutinaria</i> Medicus	a Mes-Alt H scap	EAs
Compositae (Asteraceae)		
<i>Achillea clypeolata</i> Sibth. & Sm.	a Mes-Meg H scap	Med-smed
<i>Achillea crithmifolia</i> Waldst. et Kit.	a Mes-Meg H scap	MSM
<i>Achillea millefolium</i> L.	a Meg H scap	Hol
<i>Achillea pannonica</i> Scheele	a Meg H scap	Hol
<i>Ambrosia artemisiifolia</i> L.	a-aut Mes T scap	Adv
<i>Anthemis arvensis</i> L.	a Mes-Mac T scap	Med-smed
<i>Anthemis ruthenica</i> Bieb.	a Mes-Meg T scap	Med- smed
<i>Artemisia alba</i> Turra	aut Meg fo dec Ch suffr caesp	EAMt
<i>Artemisia scoparia</i> Waldst. et Kit.	a-aut Meg T scap bienn	EAs
<i>Artemisia vulgaris</i> L.	aut Meg-Alt H scap	Hol
<i>Bellis perennis</i> L.	v-a Mi-Mes H ros	EAs

Taxa	Life form	Area type
<i>Carduus acanthoides</i> L.	a Mac H scap	Me
<i>Carduus candicans</i> Waldst. et Kit. subsp. <i>globifer</i> (Velen.) Kazmi	a Mes-Meg H scap	MSM
<i>Carduus nutans</i> L.	a Mes-Meg H scap	Me
<i>Carlina vulgaris</i> L.	a Mes-Meg T/H scap bienn	EAs
<i>Centaurea biebersteinii</i> DC.	a Mes-Meg H scap	EAs
<i>Centaurea calcitrapa</i> L.	a Mes-Meg H caesp	EAs
<i>Centaurea cyanus</i> L.	v-a Mes-Mac T scap	Csm
<i>Centaurea scabiosa</i> L.	a Meg H scap	EAs
<i>Centaurea stenolepis</i> A. Kerner.	a Mes-Meg H scap	Med-smed
<i>Centaurea triumphetti</i> All.	a Mes-Meg H scap	EAMt
<i>Chamomilla recutita</i> (L.) Rauschert	a Mes-Meg T scap	Csm
<i>Chondrilla juncea</i> L.	a Mes-Meg T scap bienn	Med-smed
<i>Cichorium intybus</i> L.	a Mac H scap	Csm
<i>Cirsium acaule</i> Scop.	a Mes H ros	EAs
<i>Cirsium vulgare</i> (Savi) Ten.	a Mes-Alt T/H scap bienn	EAs
<i>Conyza canadensis</i> (L.) Cronquist	a-aut Mes-Alt T scap	Adv
<i>Crepis biennis</i> L.	v-a Mac H scap bienn	Me
<i>Crepis foetida</i> L.	a Mes-Meg T ros	EAs
<i>Crepis sancta</i> (L.) Babcock	v Mi-Mes T scap	EAs
<i>Crepis setosa</i> Haller	a Mes-Alt T scap	Med-smed
<i>Crupina vulgaris</i> Cass	v-a Mes T scap	EAs
<i>Doronicum columnae</i> Ten.	v Mes-Meg H scap/G rhiz	EAMt
<i>Erigeron acer</i> L.	a Mes-Meg H scap bienn	Hol
<i>Hieracium cymosum</i> L.	a Mes-Meg H scap ros	EAMt
<i>Hieracium pilosella</i> L.	a Mi-Mes H ros	EAs
<i>Hieracium praealtum</i> Vill. Ex Gochnat subsp. <i>bauhinii</i> (Besser) Petunnikov	a Meg-Alt H scap	Me
<i>Inula britannica</i> L.	a Mes-Meg H scap	EAs
<i>Inula conyza</i> DC.	a Mes-Meg H scap	EAs
<i>Inula oculus-christi</i> L.	a Mes-Meg H scap	P
<i>Lactuca saligna</i> L.	a Meg-Alt T/H scap bienn	EAs
<i>Lactuca serriola</i> L.	a-aut Mes-Mac T scap bienn	EAs
<i>Lactuca viminea</i> (L.) Presl.	a Mes-Mac H scap bienn	EAs
<i>Lapsana communis</i> L.	a Meg-Alt T scap	EAs
<i>Leontodon crispus</i> L.	a Mi-Mes H ros	Med-smed
<i>Leontodon hispidus</i> L.	a Mi-Mac H ros	EAs
<i>Leucanthemum vulgare</i> Lam.	a Mes-Meg H scap	EAs
<i>Logfia minima</i> (Sm.) Dumort.	a Mi-Mes T scap	EAs
<i>Matricaria perforata</i> Mérat	a-aut Mes-Meg T/H scap bienn	EAs
<i>Mycelis muralis</i> (L.) Dumort.	a Mes-Alt H scap	EAs
<i>Onopordum acanthium</i> L.	a Meg-Alt H scap bienn	EAs
<i>Picris hieracioides</i> L.	a-aut Meg-Alt H scap bienn	EAs
<i>Ptilostemon afer</i> (Jacq.) W. Greuter	a Mac-Meg H scap bienn	Med-smed
<i>Scorzonera cana</i> (C. A. Meyer) O.Hoffm.	a Mes-Mac H scap	EAs
<i>Scorzonera hispanica</i> L.	a Mac-Meg H scap	P
<i>Senecio vernalis</i> Waldst. et Kit.	v Mes T scap	EAs
<i>Sonchus asper</i> (L.) Hill	a-aut Meg-Alt T scap bienn	EAs
<i>Sonchus oleraceus</i> L.	a Meg-Alt T/H scap bienn	Csm
<i>Taraxacum officinale</i> Weber	v-aut Mes H ros	EAs
<i>Tragopogon balcanus</i> Velen.	a Mes-Meg H scap bienn	Med-smed
<i>Tragopogon pratensis</i> L.	a Mes-Meg H scap	EAs
<i>Xanthium spinosum</i> L.	a Mes-Meg T scap	Adv
<i>Xeranthemum annuum</i> L.	a Mes-Meg T scap	Med-smed

Taxa	Life form	Area type
Boraginaceae		
<i>Anchusa barrelieri</i> (All.) Vitman	a Mac-Alt H scap bienn	EAs
<i>Anchusa officinalis</i> L.	a Alt H scap bienn	EAs
<i>Asperugo procumbens</i> L.	v Mi-Mes T scap	EAs
<i>Buglossoides arvensis</i> (L.) I. M. Johnston	v-a Mes T scap	EAs
<i>Buglossoides purpureocaerulea</i> (L.) I. M. Johnston	v-a Mac H scap	EAs
<i>Echium italicum</i> L.	v-a Mac-Meg H scap bienn	Med-smed
<i>Echium vulgare</i> L.	a Mac H scap	EAs
<i>Myosotis arvensis</i> (L.) Hill	v-a Mi-Mes T scap	Hol
<i>Myosotis caespitosa</i> F.C.Schultz.	a Mes H caesp bienn	Hol
<i>Myosotis sylvatica</i> Hoffm.	v Mes T/H scap ros	EAs
<i>Nonea pulla</i> (L.) DC.	v-a Mes-Mac H scap bien	EAs
<i>Pulmonaria officinalis</i> L.	v Mes-Mac H scap	Me
<i>Symphytum tuberosum</i> L.	v Mes-Mac H scap/G tub	MSM
Criciferae (Brassicaceae)		
<i>Aethionema saxatile</i> (L.) R. Br.	a Mi-Mes T scap	Med-smed
<i>Alliaria petiolata</i> (Bieb.) Cav. & Grande	v-a Mes-Meg T/H scap	EAs
<i>Alyssum alyssoides</i> (L.) L.	v Mi-Mes T scap	EAs
<i>Alyssum montanum</i> L.	v Mi-Mes fo dec Ch suffr rept	EAs
<i>Alyssum petraeum</i> Ard.	a Mes H scap ros bienn	Med-smed
<i>Alyssum repens</i> Baumg.	v Mi-Mes fo dec Ch suffr	P
<i>Arabidopsis thaliana</i> (L.) Heuff.	v Mi-Mes T scap ros	EAs
<i>Arabis glabra</i> (L.) Bernh.	a Meg-Alt H scap bienn	Hol
<i>Arabis hirsuta</i> (L.) Scop.	a Mes-Meg H ros bienn	Csm
<i>Arabis recta</i> Vill.	v Meg H scap bienn	EAs
<i>Arabis sagittata</i> (Bertol.) DC.	a Mes-Meg H ros bienn	EAs
<i>Arabis turrita</i> L.	v-a Meg H scap semiros	EAs
<i>Berteroa incana</i> (L.) DC.	a Mes-Mac T/H scap	EAs
<i>Camelina rumelica</i> Velen.	a Mes T scap-ros	Med-smed
<i>Capsella bursa – pastoris</i> (L.) Medicus	v-aut Mi-Meg T/H ros bienn	Csm
<i>Cardamine bulbifera</i> (L.) Crantz	v-a Mes-Mac G rhiz	EAs
<i>Cardamine hirsuta</i> L.	a Mi-Mes T scap ros	EAs
<i>Cardaria draba</i> (L.) Desv.	v-a Mes-Meg H scap	EAs
<i>Draba muralis</i> L.	v Mi-Meg T scap	Csm
<i>Erophila verna</i> (L.) Besser	v Mi-Mes T ros	EAs
<i>Erysimum cuspidatum</i> (Bieb.) DC.	a Mac T/H ros bienn	P
<i>Erysimum diffusum</i> Ehrh.	a Mes-Meg T/H scap	EAs
<i>Erysimum hieracifolium</i> L.	a Mes H scap bienn	Me
<i>Erysimum odoratum</i> Ehrh.	a Meg T scap bienn	Me
<i>Lepidium campestre</i> (L.) R. Br.	a Meg T/H scap bienn	EAs
<i>Sinapis arvensis</i> L.	v-a Mes-Mac T scap	EAs
<i>Sysimbrium orientale</i> L.	a Meg T scap bienn	EAs
<i>Thlaspi arvense</i> L.	v Mes-Mac T scap	EAs
<i>Thlaspi kovatsii</i> Heuff.	a Mes-Alt H scap	P
<i>Thlaspi perfoliatum</i> L.	v Mi-Mes T scap semiros	EAs
Campanulaceae		
<i>Asyneuma canescens</i> (W. et K.) Gris. et Sch.	a Mes-Meg H scap	EAs
<i>Campanula bononiensis</i> L.	a Mes-Meg H scap	EAs
<i>Campanula glomerata</i> L.	a Mes-Mac H scap	EAs
<i>Campanula persicifolia</i> L.	a Mes-Meg H scap	Me
<i>Campanula sparsa</i> Friv.	a Mes-Mac T scap	Me
Caprifoliaceae		
<i>Lonicera xylosteum</i> L.	fo dec Mi P caesp	EAs

Taxa	Life form	Area type
<i>Sambucus ebulus</i> L.	a Alt G rad/H scap	EAs
<i>Sambucus nigra</i> L.	fo dec Mi P scap	EAs
<i>Viburnum lantana</i> L.	fo dec N-Mi P caesp	EAs
Caryophyllaceae		
<i>Agrostemma githago</i> L.	a Meg T scap	EAs
<i>Arenaria serpyllifolia</i> L.	v-a Mi-Mes T scap	EAs
<i>Cerastium brachypetalum</i> Desp.	a Mi-Mes T scap	EAs
<i>Cerastium glomeratum</i> Thuill.	v-a Mi-Mes T scap	Csm
<i>Cerastium pumilum</i> Curt.	a Mes H scap	EAs
<i>Cerastium semidecandrum</i> L.	v Mi-Mes T scap	EAs
<i>Dianthus carthusianorum</i> L.	a Mes-Mac H scap caesp	EAs
<i>Dianthus cruentus</i> Griseb.	a Mes-Meg H scap caesp	EAMt
<i>Herniaria hirsuta</i> L.	a Mi-Mes T/H rept	EAs
<i>Herniaria incana</i> Lam.	a Mi H caesp rept	EAs
<i>Holosteum umbellatum</i> L.	a Mi T scap	EAs
<i>Lychnis coronaria</i> (L.) Desr.	a Mes-Meg H scap	EAs
<i>Minuartia verna</i> (L.) Hiern.	a Mi-Mes H caesp	Hol
<i>Petrorhagia illyrica</i> P.W.Ball et Heywood	a-aut Mes H/Ch herb caesp	Med-smed
<i>Petrorhagia prolifera</i> (L.) P. W. Ball & Heywood	a Mes T scap	EAs
<i>Petrorhagia saxifraga</i> (L.) Link	a Mes-Mac Ch caesp	EAs
<i>Scleranthus neglectus</i> Rochel ex Baumg.	a Mes T caesp	EAs
<i>Scleranthus perennis</i> L. subsp. <i>dichotomus</i> Schur	a Mes-Mac H scap rept	EAs
<i>Silene bupleuroides</i> Chater et Walters	a Mes-Mac H scap	EAs
<i>Silene otites</i> (L.) Wiebl	a Mes-Meg H scap	EAs
<i>Silene vulgaris</i> (Moench.) Garcke	a Mes-Meg H scap/G rad	EAs
<i>Stellaria holostea</i> L.	a Mes-Mac H scap	EAs
<i>Stellaria media</i> (L.) Vill.	a Mes-Meg H scap rept	Csm
Celastraceae		
<i>Evonymus europaeus</i> L.	fo dec N-Mi P caesp	EAs
<i>Evonymus latifolius</i> (L.) Miller	fo dec N-Mi P caesp	EAs
<i>Evonymus verrucosus</i> Scop.	fo dec N-Mi P caesp	EAs
Cistaceae		
<i>Fumana procumbens</i> (Dunal) Gren. & Gordon	v-a Mi-Mes Ch frut	EAs
<i>Helianthemum ledifolium</i> (L.) Miller	a Mi T scap	Med-smed
<i>Helianthemum nummularium</i> (L.) Miller	a Mes-Meg fo dec Ch suffr caesp	EAs
<i>Helianthemum salicifolium</i> (L.) Miller	v Mi-Mes T scap	Med-smed
Convolvulaceae		
<i>Convolvulus arvensis</i> L.	a Mes-Alt S herb	EAs
<i>Convolvulus canthabrica</i> L.	a Mes-Meg H scap	EAs
<i>Cuscuta approximata</i> Bab.	T/S par	Hol
<i>Cuscuta epithymum</i> (L.) L.	T/S par	Hol
<i>Cuscuta europaea</i> L.	T/S par	EAs
Cornaceae		
<i>Cornus mas</i> L.	fo dec Mi P caesp	EAs
<i>Cornus sanguinea</i> L.	fo dec Mi-Mes P caesp	Me
Corylaceae		
<i>Carpinus betulus</i> L.	fo dec Meg-Alt P caesp scap	EAs
<i>Carpinus orientalis</i> Miller	fo dec Mi-Mes P caesp	Med-smed
<i>Corylus avellana</i> L.	fo dec Meg-Alt P caesp	EAs
<i>Corylus colurna</i> L.	fo dec Mes P scap	Med-smed
Crassulaceae		
<i>Jovibarba heuffelii</i> A. et D. Löve	a Mes fo semp Ch herb ros succ	P

Taxa	Life form	Area type
<i>Sedum acre</i> L.	a Mi-Mes Ch herb scap succ	Me
<i>Sedum album</i> L.	a Mi-Mes Ch herb scap succ	Med-smed
<i>Sedum annuum</i> L.	a N-Mi Ch herb scap succ	AA
<i>Sedum hispanicum</i> L.	a Mi T/H succ	EAs
<i>Sedum ochroleucum</i> Chaix.	a Mes Ch herb succ	Med-smed
<i>Sedum sexangulare</i> L.	a Mi-Mes Ch herb succ	Me
<i>Sedum telephium</i> L. subsp. <i>maximum</i> (L.) Krock.	a Mac H scap succ	EAs
Dipsacaceae		
<i>Cephalaria laevigata</i> (Waldst. & Kit.) Schrader	a Meg-Alt Ch suffrut	Med-smed
<i>Knautia arvensis</i> (L.) Coult.	v-a Mes-Alt H scap	EAs
<i>Knautia integrifolia</i> (L.) Bertol	a Mes-Meg T scap	Med-smed
<i>Scabiosa argentea</i> L.	a Mes-Meg H scap	P
Euphorbiaceae		
<i>Euphorbia amygdaloides</i> L.	a Mes-Mac T scap	EAs
<i>Euphorbia cyparissias</i> L.	v-a Mes-Mac H scap	EAs
<i>Euphorbia esula</i> L.	a Meg-Alt H scap	Me
<i>Euphorbia falcata</i> L.	a-aut Mi-Mes T scap	EAs
<i>Euphorbia helioscopia</i> L.	a Mi-Meg T scap	EAs
<i>Euphorbia nicaeensis</i> All. subsp. <i>glareosa</i> (Pallas ex Bieb.) A. R. Sm.	v-a Mes H scap	EAs
<i>Euphorbia taurinensis</i> All.	v-a Mes T scap	Med-smed
<i>Euphorbia seguierana</i> Necker subsp. <i>niciciana</i> (Borbás ex Novák) Rech. Fil.	a Mes-Meg H scap	EAs
<i>Euphorbia platyphyllos</i> L.	a-aut Mes-Mac T scap	EAs
<i>Euphorbia salicifolia</i> Host.	v-a Mes H scap	EAs
Leguminosae (Fabaceae)		
<i>Anthyllis vulneraria</i> L.	a Mes-Meg H scap	EAs
<i>Astragalus glycyphyllos</i> L.	a Mes-Meg H scap rept	EAs
<i>Astragalus onobrychis</i> L.	a Mes fo Ch suffrut rept	EAs
<i>Chamaecytisus austriacus</i> (L.) Link	v-a Mes-Mac fo dec Ch suffrut caesp	MSM
<i>Chamaecytisus ciliatus</i> (Wahlenb.) Rothm.	v-a Mes-Mac fo dec Ch suffrut caesp	MSM
<i>Chamaecytisus glaber</i> (L. fil.) Rothm.	v-a Mes-Meg fo dec Ch frut caesp	EAMt
<i>Chamaecytisus rochelii</i> (Wierzb.) Rothm.	v-a Mes-Meg fo dec Ch frut caesp	MSM
<i>Chamaespartium sagittale</i> (L.) P. Gibbs	a Mes fo dec Ch suffrut caesp	EAs
<i>Coronilla coronata</i> L.	v-a Mes fo dec Ch suffrut caesp	EAs
<i>Coronilla emerus</i> L.	a fo dec NP caesp	Med-smed
<i>Coronilla scorpioides</i> (L.) Koch	v Mi-Mes T scap	Med-smed
<i>Coronilla varia</i> L.	a Mes-Meg H scap	EAs
<i>Cytisus procumbens</i> (Waldst. & Kit. ex Willd.) Sprengel	a Mes fo dec Ch suffrut caesp	Med-smed
<i>Dorycnium pentaphyllum</i> Scop. subsp. <i>germanicum</i> (Gremli) Gams	a Mes fo dec Ch suffrut caesp	MSM
<i>Genista ovata</i> Waldst. et Kit.	a Mes-Mac fo dec Ch suffrut caesp	EAs
<i>Lathyrus aphaca</i> L.	a Mes T/S herb	EAs
<i>Lathyrus cicera</i> L.	a Mes-Mac T scap	Med-smed
<i>Lathyrus inconspicuus</i> L.	a Mes T scap	Med-smed
<i>Lathyrus nissolia</i> L.	a Mes-Meg T scap	EAs
<i>Lathyrus pallescens</i> (Bieb.) C. Koch.	a Mes-Mac T scap	P
<i>Lathyrus pratensis</i> L.	a Mes-Meg H scap	EAs
<i>Lathyrus setifolius</i> L.	a Mes-Mac T rept	Med-smed
<i>Lathyrus venetus</i> (Mill.) Wohlf.	a Mes-Meg H scap	P
<i>Lotus corniculatus</i> L.	a Mes H scap	Hol
<i>Medicago lupulina</i> L.	a Mes T/H scap	Hol

Taxa	Life form	Area type
<i>Medicago minima</i> (L.) Bartal	v Mi-Mes T scap	EAs
<i>Medicago rigidula</i> (L.) All.	v Mi-Mes T scap	EAs
<i>Medicago sativa</i> L.	a Mes-Meg H scap	Adv
<i>Medicago sativa</i> L. subsp. <i>falcata</i> (L.) Arcangeli	a Mes-Meg H scap	EAs
<i>Melilotus officinalis</i> (L.) Pallas	a Meg T/H scap bienn	EAs
<i>Onobrychis alba</i> (Waldst. et Kit.) Desv.	a Mes-Meg H scap	Med-smed
<i>Onobrychis arenaria</i> (Kit.) DC.	v-a Mes-Meg H scap	EAs
<i>Onobrychis ocellata</i> G. Beck.	a Mes H scap	Med-smed
<i>Onobrychis vicifolia</i> Scop.	a Mes-Meg H scap	Med-smed
<i>Ononis pusilla</i> L.	a-aut Mi-Mes fo dec Ch suffrut caesp	EAs
<i>Ononis spinosa</i> L.	a Mes-Meg fo dec Ch suffrut caesp	EAs
<i>Oxytropis pilosa</i> (L.) DC.	a Mes H scap	EAs
<i>Trifolium alpestre</i> L.	a Mes-Mac H scap	EAs
<i>Trifolium arvense</i> L.	a Mes T/H scap bienn	EAs
<i>Trifolium badium</i> Schreber	a Mes-Meg H scap	EAMt
<i>Trifolium campestre</i> Schreber	a Mes-Mac T scap	EAs
<i>Trifolium incarnatum</i> L.	a Mes-Meg T scap	EAs
<i>Trifolium medium</i> L.	v-a Mes-Mac H scap	EAs
<i>Trifolium montanum</i> L.	a Mes H scap	EAs
<i>Trifolium pratense</i> L.	a Mes H scap	EAs
<i>Trifolium repens</i> L.	a Mi H rept	Hol
<i>Trifolium scabrum</i> L.	a Mi-Mes T scap	Med-smed
<i>Trifolium striatum</i> L.	a Mes T scap	EAs
<i>Vicia cracca</i> L.	a Meg-Alt H/S scap herb	EAs
<i>Vicia hirsuta</i> (L.) S. F. Gray	a Mes-Meg T/S scap herb	EAs
<i>Vicia lathyroides</i> L.	v-a Mes-Meg T scap	EAs
<i>Vicia pannonica</i> Crantz	v-a Mes T/S scap herb	P
<i>Vicia sativa</i> L. subsp. <i>nigra</i> (L.) Ehrh.	v-a Mes-Meg T scap bienn	EAs
<i>Vicia tenuifolia</i> Roth.	a Mac-Alt H/S scap herb	EAs
<i>Vicia tetrasperma</i> (L.) Schreber	v-a Mes T/S herb	EAs
Fagaceae		
<i>Fagus moesiaca</i> (K. Maly) Czecz.	fo dec Meg-Alt P scap	Me
<i>Quercus cerris</i> L.	fo dec Mes P scap	Med-smed
<i>Quercus petraea</i> (Mattuschka) Liebl.	fo dec Meg-Alt P scap	Me
<i>Quercus pubescens</i> Willd.	fo dec Mes P scap	Med-smed
Fumariaceae		
<i>Corydalis solida</i> L.	v Mes G tub	Me
<i>Fumaria officinalis</i> L.	a Mes T scap	EAs
<i>Fumaria vaillantii</i> Loisel.	a Mi-Mes T scap	EAs
Gentianaceae		
<i>Gentiana cruciata</i> L.	a Mes-Meg G rad scap	EAs
Geraniaceae		
<i>Erodium ciconium</i> (L.) L'Her.	v-a Mi-Mes T scap	MSM
<i>Erodium cicutarium</i> (L.) L'Herit.	v-a Mi-Mes T ros	Csm
<i>Geranium columbinum</i> L.	a Mes-Meg T scap	EAs
<i>Geranium dissectum</i> L.	a Mi-Meg T scap	EAs
<i>Geranium molle</i> L.	v Mes T scap	EAs
<i>Geranium rotundifolium</i> L.	a Mi-Meg T caesp	EAs
<i>Geranium sanguineum</i> L.	v-a Mes H semiros	EAs
Globulariaceae		
<i>Globularia punctata</i> Lapeyr.	v-a Mes H scap	EAs

Taxa	Life form	Area type
Grossulariaceae		
<i>Ribes alpinum</i> L.	fo dec Mi P caesp scap	EAs
Hypericaceae		
<i>Hypericum barbatum</i> Jacq.	a Mes-Mac H scap	EAs
<i>Hypericum montanum</i> L.	a Mes-Meg H scap	Me
<i>Hypericum perforatum</i> L.	a Mes-Meg H scap	EAs
<i>Hypericum rumelicum</i> Boiss.	a Mi-Mes H scap	Med-smed
Labiatae (Lamiaceae)		
<i>Acinos alpinus</i> (L.) Moench	a Mes T scap/G rhiz	EAs
<i>Acinos arvensis</i> (Lam.) Dandy	a Mi-Mes T scap/G rhiz	EAs
<i>Ajuga chamaepytus</i> (L.) Schreber subsp. <i>chia</i> (Schreber) Arcangeli	a Mi-Mes T scap	Med-smed
<i>Ajuga genevensis</i> L.	v-a Mes-Mac H scap ros	EAs
<i>Ajuga laxmannii</i> (L.) Benth	v-a Mes H scap/G rhiz	P
<i>Ajuga reptans</i> L.	a Mes H rept	EAs
<i>Ballota nigra</i> L.	a Meg H scap	EAs
<i>Clinopodium vulgare</i> L.	a Mes-Meg H scap	Hol
<i>Glechoma hirsuta</i> Waldst. et Kit.	a Mes H rept	EAs
<i>Hyssopus officinalis</i> L.	aut Mes-Meg Ch frut	EAs
<i>Lamiaeum galeobdolon</i> (L.) Ehrend. & Polatschek	v-a Mes-Mac H scap	Me
<i>Lamium amplexicaule</i> L.	v Mi-Mes T scap	Hol
<i>Lamium bifidum</i> Cyr.	v-a Mi-Mes T scap	Med-smed
<i>Lamium maculatum</i> L.	v Mes-Mac H scap	EAs
<i>Lamium purpureum</i> L.	v Mi-Mes T scap	EAs
<i>Marrubium peregrinum</i> L.	a Mes-Meg H scap	EAs
<i>Marrubium vulgare</i> L.	a Meg H scap	EAs
<i>Mentha longifolia</i> (L.) Hudson	a Mes-Meg H scap	Hol
<i>Nepeta nuda</i> L.	a Mac-Meg H scap	EAs
<i>Origanum vulgare</i> L.	a Mes-Meg H scap	EAs
<i>Prunella laciniata</i> (L.) L.	a Mes-Mac H scap	EAs
<i>Prunella vulgaris</i> L.	a Mi-Mes H scap semiros	EAs
<i>Salvia aethiopsis</i> L.	a Mes-Mac H scap	P
<i>Salvia austriaca</i> Jacq.	a Mes-Mac H scap	P
<i>Salvia nemorosa</i> L.	a Mes-Meg H scap	EAs
<i>Satureja montana</i> L. subsp. <i>kitaibelii</i> (Wierzb.) P.W. Ball	a Mes Ch suffrut caesp	EAMt
<i>Sideritis montana</i> L.	a Mi-Mes T scap	EAs
<i>Stachys germanica</i> L.	a Meg H scap	MSM
<i>Stachys recta</i> L.	a Mes-Meg H scap	EAs
<i>Teucrium chamaedrys</i> L.	a Mes Ch suffrut caesp	EAs
<i>Teucrium montanum</i> L.	a Mes Ch suffrut caesp	EAMt
<i>Thymus glabrescens</i> Willd.	a Mi-Mac Ch herb rept	EAs
<i>Thymus pannonicus</i> All.	a Mi-Mac Ch rept	Me
<i>Thymus praecox</i> Opiz subsp. <i>jankaе</i> (Čelak.) Jalas	a Mi Ch herb rept pulv	Med-smed
<i>Thymus pulegioides</i> L.	a Mi-Mes Ch herb rept	Me
<i>Ziziphora capitata</i> L.	a Mi-Mes T scap	Med-smed
Linaceae		
<i>Linum hologynum</i> Reichenb.	a Mes-Mac H caesp	Med-smed
<i>Linum tenuifolium</i> L.	a Mes- Mac H scap	EAs
Malvaceae		
<i>Althaea hirsuta</i> L.	a Mes T scap	EAs
<i>Althaea officinalis</i> L.	a Meg H scap bienn	EAs

Taxa	Life form	Area type
<i>Malva neglecta</i> Wallr.	v-a Mes-Mac T/H scap	EAs
<i>Malva sylvestris</i> L.	v-a Mes-Alt H scap	EAs
Oleaceae		
<i>Fraxinus ornus</i> L.	fo dec Mi-Mes P scap	EAs
<i>Ligustrum vulgare</i> L.	fo dec Mi P caesp	EAs
<i>Syringa vulgaris</i> L.	fo dec Mi P caesp	Med-smed
Orobanchaceae		
<i>Orobanche gracilis</i> Sm.	a Mes-Mac ep par G	EAs
<i>Orobanche nana</i> (Reuter) Noë ex G. Beck	a Mi-Mes ep par G	P
Papaveraceae		
<i>Papaver dubium</i> L.	a Meg T scap	EAs
<i>Papaver rhoeas</i> L.	a Mes-Meg T scap	EAs
Plantaginaceae		
<i>Plantago argentea</i> Chaix	a Mi-Meg H ros	EAMt
<i>Plantago lanceolata</i> L.	a Mi-Meg H ros	EAs
<i>Plantago maior</i> L.	a Mes-Meg H ros	Csm
<i>Plantago media</i> L.	a Mes-Meg H ros	EAs
Polygalaceae		
<i>Polygala comosa</i> Schkuhr	a Mi-Mes H scap	EAs
<i>Polygala vulgaris</i> L.	a Mi-Mes H scap	EAs
Polygonaceae		
<i>Fallopia convolvulus</i> (L.) Á. Löve	a-aut Mes T/S rept-herb	EAs
<i>Rumex patientia</i> L.	a Mes-Alt H scap semiros	EAs
<i>Rumex sanguineus</i> L.	a Meg H scap	Hol
Primulaceae		
<i>Anagallis arvensis</i> L.	v-a Mi-Mes T scap	Csm
<i>Primula veris</i> L.	v Mi-Mes H ros	EAs
Ranunculaceae		
<i>Adonis flamma</i> Jacq.	a Mes T scap	P
<i>Adonis vernalis</i> L.	v Mes-Meg G rhiz	P
<i>Anemone nemorosa</i> L.	v Mi-Mes G rhiz	Hol
<i>Anemone ranunculoides</i> L.	v Mi-Mes G rhiz	Me
<i>Clematis vitalba</i> L.	a dec S lig	EAs
<i>Consolida regalis</i> S. F. Gray	a Mes-Meg T scap	EAs
<i>Delphinium fissum</i> Waldst. et Kit.	a Meg-Alt G tub	Med-smed
<i>Helleborus odoratus</i> Waldst. & Kit.	v Meg G rhiz	Me
<i>Isopyrum thalictroides</i> L.	v Mes G rhiz	EAs
<i>Nigella arvensis</i> L.	a-aut Mes T scap	EAs
<i>Nigella damascena</i> L.	a Mes T scap	Med-smed
<i>Pulsatilla montana</i> (Hoppe) Reichenb. subsp. <i>bulgarica</i> Rummelspecher	v Mes H scap semiros	EAs
<i>Ranunculus bulbosus</i> L.	a Mes-Meg H scap	EAs
<i>Ranunculus ficaria</i> L.	v Mi-Mes G tub	Me
<i>Ranunculus millefoliatus</i> Wahl.	v-a Mes H scap semiros	Med-smed
<i>Ranunculus polyanthemus</i> L.	a Meg H scap semiros	EAs
<i>Ranunculus sardous</i> Crantz	a Mes-Meg T scap	EAs
<i>Thalictrum aquilegifolium</i> L.	a Meg-Alt H scap	Me
Resedaceae		
<i>Reseda lutea</i> L.	a Mes-Meg T/H scap bienn	EAs

Taxa	Life form	Area type
Rosaceae		
<i>Agrimonia eupatoria</i> Ledeb.	a Meg H scap	EAs
<i>Aremonia agrimonioides</i> (L.) Neck.	v Mi-Mes H scap ros	EAMt
<i>Cotoneaster integerrimus</i> Medicus	a Mac Ch frut rept	Me
<i>Crataegus monogyna</i> Jacq.	fo dec Mi P caesp	EAs
<i>Filipendula vulgaris</i> Moench	a Mes-Meg H scap	EAs
<i>Fragaria moschata</i> Duchesne	a Mes H rept ros	EAs
<i>Fragaria vesca</i> L.	a Mes H rept	Csm
<i>Fragaria viridis</i> Duchesne	a Mes H rept	EAs
<i>Geum urbanum</i> L.	a Mes-Meg H scap	Hol
<i>Malus pumila</i> Miller	fo dec Mi-Mes P scap	P
<i>Malus sylvestris</i> Miller	fo dec Mi-Mes P scap	EAs
<i>Potentilla argentea</i> L.	a Mes-Meg H scap	Me
<i>Potentilla cinerea</i> Chaix ex Vill.	v Mi-Mes H caesp rept	EAs
<i>Potentilla micrantha</i> Ramond ex D.C.	v Mi-Mes H scap	Med-smed
<i>Potentilla recta</i> L.	a Mes-Meg H scap	EAs
<i>Prunus spinosa</i> L.	fo dec N P caesp	EAs
<i>Prunus tenella</i> Batsch	fo dec N P caesp	EAs
<i>Pyrus amygdaliformis</i> Vill.	fo dec N P caesp	Med-smed
<i>Pyrus pyraster</i> Burgsd.	fo dec Mes P scap	EAs
<i>Rosa canina</i> L.	fo dec N P caesp	EAs
<i>Rosa micrantha</i> Borrer ex Sm.	fo dec N P caesp	EAs
<i>Rosa pimpinellifolia</i> L.	fo dec N P caesp	EAs
<i>Sanguisorba minor</i> Scop.	a Mes-Meg H scap	EAs
<i>Sorbus torminalis</i> (L.) Crantz	fo dec Mes P scap	EAs
Rubiaceae		
<i>Asperula aristata</i> L. subsp. <i>scabra</i> (J. & C. Presl) Nyman	a Mes-Meg H scap	Me
<i>Asperula cynanchica</i> L.	v-a Mes-Mac H scap	EAs
<i>Crucianella angustifolia</i> L.	a Mi-Mes T scap	Med-smed
<i>Cruciata glabra</i> (L.) Ehrend.	v-a Mi-Mes H scap	EAs
<i>Cruciata laevipes</i> Opiz	v-a Mes-Mac H scap	EAs
<i>Cruciata pedemontana</i> (Bellardi) Ehrend.	v-a Mes-Meg H scap	Med-smed
<i>Galium album</i> Miller	a Meg-Alt H/S scap herb	Me
<i>Galium aparine</i> L.	v-a Mes-Meg T/S herb	Csm
<i>Galium verum</i> L.	a Mes-Meg H scap	EAs
<i>Sherardia arvensis</i> L.	v-a Mi-Mes T scap	Med-smed
Rutaceae		
<i>Dictamnus albus</i> L.	v-a Mes-Alt Ch suffrut caesp	EAs
Salicaceae		
<i>Salix purpurea</i> L.	fo dec Mi P caesp	EAs
Santalaceae		
<i>Thesium alpinum</i> L.	a Mes-Mac H scap	EAMt
<i>Thesium arvense</i> Horvatovszky	a Mi-Mes H scap	EAs
<i>Thesium divaricatum</i> Jan ex Mert. & Koch	a Mes H scap	Med-smed
Scrophulariaceae		
<i>Chaenorhinum minus</i> (L.) Lange	a-aut Mi-Mes T scap	EAs
<i>Digitalis lanata</i> Ehrh.	a Mac-Alt H scap	Me
<i>Euphrasia pectinata</i> Ten.	a Mi-Mes T scap/ep Semipar	EAs
<i>Kickxia spuria</i> (L.) Dumort	a-aut Mes T rept	EAs
<i>Lathraea squammaria</i> L.	a Mes-Meg G Par	EAs
<i>Linaria angustissima</i> (Lois.) Borb.	a Mes H/G scap rhiz	Med-smed

Taxa	Life form	Area type
<i>Linaria genistifolia</i> (L.) Mill.	a Mes-Mac H scap	EAs
<i>Linaria genistifolia</i> (L.) Miller subsp. <i>dalmatica</i> (L.) Maire & Petitmengin	a Meg-Alt H scap	EAs
<i>Linaria rubioides</i> Vis. & Pančić subsp. <i>nissana</i> (Petrović) Niketić & Tomović	a Mes H scap	Med-smed
<i>Linaria vulgaris</i> L.	a Mes-Mac H scap	EAs
<i>Rhinanthus rumelicus</i> Velen.	a Mi-Mac T scap/ep Semipar	EAs
<i>Scrophularia canina</i> L.	a Mes-Mac H scap	Med-smed
<i>Verbascum lychnitis</i> L.	a Mac-Alt T/H scap ros bienn	EAs
<i>Verbascum phlomoides</i> L.	v-a Mes-Alt H ros	EAs
<i>Verbascum phoeniceum</i> L.	v-a Mac-Meg H ros	EAs
<i>Veronica austriaca</i> L.	a Mes-Mac H scap	EAs
<i>Veronica chamaedrys</i> L.	v-a Mi-Mes H scap	EAs
<i>Veronica hederifolia</i> L.	v Mi-Mes T scap	EAs
<i>Veronica persica</i> Poiret	v-aut Mi-Mes T scap	Adv
<i>Veronica praecox</i> All.	v Mi-Mes T scap bienn	EAs
<i>Veronica verna</i> L.	v-a Mi-Mes T scap bienn	Me
Solanaceae		
<i>Hyoscyamus niger</i> L.	v-a Mes-Meg T scap bienn	EAs
Tiliaceae		
<i>Tilia platyphyllos</i> Scop.	fo dec Mes P scap	Me
Ulmaceae		
<i>Ulmus glabra</i> Hudson	fo dec Mes P scap	Me
<i>Ulmus minor</i> Mill.	fo dec Mes P scap	Med-smed
<i>Ulmus procera</i> Salisb.	fo dec Mes P scap	Me
Urticaceae		
<i>Urtica dioica</i> L.	a Mes-Meg T/H scap	Hol
Valerianaceae		
<i>Valeriana officinalis</i> L.	a Meg-Alt H scap	EAs
<i>Valerianella coronata</i> (L.) DC.	v Mi-Mes T scap	Med-smed
<i>Valerianella dentata</i> (L.) Pollich	v Mi-Mes T scap	EAs
<i>Valerianella locusta</i> (L.) Laterrade	v Mes T scap	Csm
<i>Valerianella rimoso</i> Bast.	v Mes T scap	EAs
Verbenaceae		
<i>Verbena officinalis</i> L.	a Mes-Meg H scap	EAs
Violaceae		
<i>Viola alba</i> Besser	v Mi-Mes H rept semiros	EAs
<i>Viola arvensis</i> Murray	v-aut Mi-Mac T scap	Csm
<i>Viola canina</i> L.	v Mi-Mes H scap semiros	Hol
<i>Viola hirta</i> Murray	v Mi-Mes H scap	Me
<i>Viola jordanii</i> Hanry	v Mes H scap ros	P
<i>Viola kitaibeliana</i> Schultes	v N-Mi T scap	EAs
<i>Viola odorata</i> L.	v Mi-Mes H rept ros	EAs
<i>Viola tricolor</i> L. subsp. <i>macedonica</i> (Boiss. & Heldr.) A. Schmidt	v Mi-Mes T/H scap	Med-smed
LILIOPSIDA		
Araceae		
<i>Arum maculatum</i> L.	v Mes-Meg G rhiz	Me
Cyperaceae		
<i>Carex caryophyllea</i> Latourr.	a Mes-Meg H caesp	EAs

Taxa	Life form	Area type
<i>Carex divulsa</i> Stokes	v-a Mes-Mac H caesp	Hol
<i>Carex halleriana</i> Asso	v Mes-Mac H caesp	Med-smed
<i>Carex humilis</i> Leysser	a Mi-Mes H caesp	EAs
<i>Carex pilosa</i> Scop.	v-a Mes-Meg H caesp	EAs
Dioscoreaceae		
<i>Tamus communis</i> L.	v Alt S/G herb rhiz	Med-smed
Iridaceae		
<i>Crocus adami</i> Gay	v Mi G bulb	MSM
Liliaceae		
<i>Allium albidum</i> Fischer ex Bieb.	a Mes G bulb	P
<i>Allium cupani</i> Rafin	a Mes G bulb	Med-smed
<i>Allium flavum</i> L.	a Mes-Mac G bulb	MSM
<i>Allium moschatum</i> L.	a Mes G bulb	EAs
<i>Allium scorodoprasum</i> (L.) subsp. <i>rotundum</i> (L.) Stearn	a Mes-Meg G bulb	EAs
<i>Allium sphaerocephalon</i> L	a Mes-Meg G bulb	EAs
<i>Anthericum ramosum</i> L.	a Mes-Meg G rhiz	EAs
<i>Asparagus officinalis</i> L.	a Meg-Alt G rhiz	P
<i>Asparagus tenuifolius</i> Lam.	a Meg-Alt G rhiz	EAs
<i>Colchicum autumnale</i> L.	aut Mes G bulb	EAs
<i>Erythronium dens – canis</i> L.	v Mes G bulb	EAs
<i>Gagea lutea</i> (L.) Ker-Gawler	v Mes G bulb	EAs
<i>Gagea arvensis</i> (Pers.) Dumort.	v Mi-Mes G bulb	EAs
<i>Gagea minima</i> (L.) Ker-Gawler	v Mi G bulb	EAs
<i>Gagea pratensis</i> (Pers.) Dumort.	a Mi-Mes G bulb	EAs
<i>Gagea pusilla</i> (F. W. Schmidt) Schultes & Schultes fil	v Mi G bulb	EAs
<i>Hyacinthella leucophaea</i> (C. Koch) Schur	a Mi-Mes G bulb	EAs
<i>Muscari comosum</i> (L.) Miller	v Mes G bulb	EAs
<i>Muscari neglectum</i> Guss. Ex Ten.	v Mes G bulb	EAs
<i>Muscari tenuiflorum</i> Tausch	v Mes G bulb	P
<i>Ornithogalum collinum</i> Guss.	v-a Mi-Mes G bulb	EAs
<i>Ornithogalum ortophyllum</i> Ten. subsp. <i>kochii</i> (Parl.) Zahar.	v Mi-Mes G bulb	EAs
<i>Ornithogalum pyramidale</i> L.	v Mi-Mes G bulb	EAs
<i>Ornithogalum umbellatum</i> L.	v-a Mes G bulb	EAs
<i>Polygonatum odoratum</i> (Miller) Druce	a Mes-Meg G rhiz	EAs
<i>Scilla bifolia</i> L.	v Mes G bulb	EAs
<i>Veratrum nigrum</i> L.	a Meg-Alt G rhiz	EAs
Orchidaceae		
<i>Listera ovata</i> (L.) R. Br.	a Mes G tub scap	EAs
<i>Ophrys apifera</i> Hudson	a Mes G tub scap	EAs
<i>Ophrys cornuta</i> Steven	a Mes G tub scap	EAs
<i>Orchis morio</i> L.	v-a Mes G tub scap	EAs
<i>Orchis pallens</i> L	v Mes G tub scap	EAs
Poaceae		
<i>Aegilops geniculata</i> Roth.	a Mi-Mes T caesp	Med-smed
<i>Agropyron cristatum</i> (L.) Gaertne	a Mes-Meg G rhiz caesp	EAs
<i>Agrostis capillaris</i> L	a Mes-Meg H caesp	Hol
<i>Alopecurus pratensis</i> L.	a Mes-Meg H caesp	EAs
<i>Antoxanthum odoratum</i> L.	a Mes-Meg H caesp	EAs
<i>Avenula pubescens</i> (Hudson) Dumort.	a Mes-Alt H caesp	EAs

Taxa	Life form	Area type
<i>Brachypodium pinnatum</i> (L.) Beauv.	a Mac-Alt H caesp	EAs
<i>Brachypodium sylvaticum</i> (Hudson) Beauv.	a Mac-Alt H caesp	EAs
<i>Briza media</i> L.	a Mes-Meg H caesp	Me
<i>Bromus commutatus</i> Schrader	a Meg T scap	MSM
<i>Bromus hordeaceus</i> L.	a Mes-Meg T caesp	EAs
<i>Bromus ramosus</i> Hudson	a Meg-Alt H caesp	EAs
<i>Bromus squarrosus</i> L.	a Mes-Mac T caesp bienn	Med-smed
<i>Chrysopogon gryllus</i> (L.) Trin.	a Alt H caesp	EAs
<i>Cleistogenes serotina</i> (L.) Keng	a Mes-Mac H caesp	Med-smed
<i>Dactylis glomerata</i> L.	a Meg H caesp	EAs
<i>Dasyphyrum villosum</i> R. Br. Ex Fresen.	a Mes-Meg T caesp	Med-smed
<i>Dichanthium ischaemum</i> (L.) Roberty	a Mes-Meg H caesp	EAs
<i>Elymus repens</i> (L.) Gould	a Mes-Meg G rhiz caesp	Csm
<i>Festuca pratensis</i> Huds.	a Mac-Meg H caesp	EAs
<i>Festuca rubra</i> L.	a Meg H caesp	Hol
<i>Festuca valesiaca</i> Schleicher ex Gaudin	a Mes-Mac H caesp	EAs
<i>Holcus mollis</i> L.	a Mes-Mac H caesp	EAs
<i>Hordeum murinum</i> L. subsp. <i>leporinum</i> (Link) Arcangeli	a Mes T caesp	Med-smed
<i>Koeleria eryostachya</i> Pančić	a Meg H caesp	Me
<i>Koeleria glauca</i> (Schreder) DC.	a Mes-Meg H caesp	EAs
<i>Koeleria glaucovirens</i> Domin	a Mes-Meg H caesp	Med-smed
<i>Koeleria macrantha</i> (Ledeb.) Schultes	a Mes-Mac H caesp	Hol
<i>Koeleria nitidula</i> Velen.	a Mes-Meg H caesp	Med-smed
<i>Lolium perenne</i> L.	a Mes-Mac H caesp	EAs
<i>Melica ciliata</i> L.	a Mes-Meg H caesp	EAs
<i>Melica transsilvanica</i> Schur	a Mes-Meg H caesp	P
<i>Melica uniflora</i> Retz.	a Mes-Mac H caesp	Me
<i>Phleum pratense</i> L.	a Mes-Alt H caesp	Me
<i>Poa annua</i> L.	a-aut Mi-Mes T/H caesp	Csm
<i>Poa bulbosa</i> L.	a Mes-Meg H caesp	EAs
<i>Poa compressa</i> L.	a Mes-Mac H caesp	Csm
<i>Poa nemoralis</i> L.	a Mes-Meg H caesp	Hol
<i>Poa pratensis</i> L.	a Mes-Meg H scap	EAs
<i>Sesleria latifolia</i> (Adamović) Degen	a Mes-Meg H caesp	EAMt
<i>Sesleria rigida</i> Heuffel ex Reichenb.	a Mes-Meg H caesp	EAMt
<i>Setaria viridis</i> (L.) Beauv.	a Mes-Mac H caesp	EAs
<i>Sorghum halepense</i> (L.) Pers.	a-aut Meg-Alt G rhiz caesp	Adv
<i>Stipa capillata</i> L.	a Mac-Meg H caesp	EAs
<i>Stipa pulcherrima</i> C. Koch.	a Mac-Alt H caesp	EAs
<i>Tragus racemosus</i> (L.) All.	a Mi-Mes T caesp-rept	Csm
<i>Vulpia myuros</i> (L.) C. C. Gmelin	a Mes-Meg T caesp	Csm

Discussion

Taxonomic analysis

Divisio Pteridophyta was represented by single class Polypodiopsida with only 7 species. Pinophyta was represented with single class Pinopsida and just one species. Divisio Magnoliophyta was represented by 526 species, from which 439 are classified as dicotyledons

(Magnoliopsida) and 87 as monocotyledons (Liliopsida).

In taxonomic spectrum of the flora of investigated area the most numerous in genera were Compositae (36), Gramineae (29), Labiatae (20), Criciferae (17) and Leguminosae (17).

Families with the most number of species were Compositae (63), Leguminosae (55), Gramineae (47) and Labiatae (36).

The analysis of the particular genera occurrence in flora of the Vučje hill has shown

domination of representatives of genera *Trifolium* (11), *Euphorbia* (10), *Lathyrus* (8), *Viola* (8), *Vicia* (7) *Sedum* (7), following by the genres *Centaurea*, *Veronica* and *Allium* with 6 species in each genus.

Phytogeographical analysys

For the phytogeographical analysis, all plant taxa were classified into 10 area types (Fig. 2) according to the classification by Stevanović (1992).

Eurasian area type (EAs) was the most dominant in the flora of the Vučje hill with 303 taxa (56.7%). The second one was Mediterranean-Submediterranean area type (Med) with 75 species (7.9%).

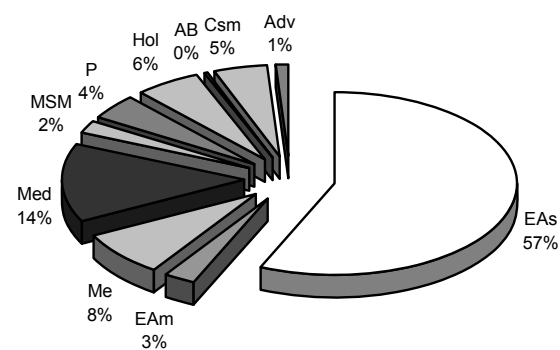


Figure 2. Area spectrum of the flora of Vučje hill: **Csm** – Cosmopolitan, **Hol** – Holarctic, **AB** – Arcto-Alpian + Boreal, **Me** – Middle-European, **EAs** – Euroasian, **EAMt** – Euroasian Mountain, **P** – Pontic, **MSM** – Merridional-Submerridional, **Med** – Mediterranean-Submediterranean, **Adv** – Adventitious

There were 10 Balcan endemic taxa in the flora of the Vučje hill. These represents 3,48% of the total number of Balcan endemics in Serbian flora, which includes 287 taxa in rank of species and subspecies (Stevanović et al., 1999). Small number of endemic floral elements are expected due to uniformity of habitats in the wider area of Vučje.

The recorded Balcan endemics are: *Acanthus balcanicus*, *Acer hyrcanum* subsp. *intermedium*, *Bupleurum flavicans*, *Eryngium palmatum*, *Hypericum rumeliacum*, *Thymus praecox* subsp. *jankae*, *Pulsatilla montana* subsp. *bulgarica*, *Linaria rubioides* subsp. *nissana*, *Viola tricolor* subsp. *macedonica* and *Sesleria latifolia*.

Biological spectrum

The analysis of plant life forms (Fig. 3) showed that flora of investigated area was of hemicryptophyta type, as well as the flora of Serbia

(Diklić, 1984) and Balkan peninsula (Turill, 1929). The hemicryptophytes were represented with 45%; theropytes followed with 26,9% and geophytes with 11,1%. The climatic characteristics of this area caused the high percentage of hemicryptophyta.

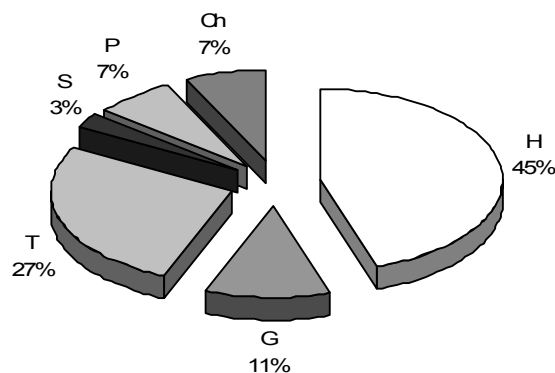


Figure 3. Biological spectrum of the flora of Vučje hill: **P** – Phanerophyta, **Ch** – Chamaephyta, **H** – Hemicryptophyta, **G** – Geophyta, **T** – Terophyta, **S** – Scandetophyta

Threatened status

Even the flora of the Vučje hill is diverse and rich, consisting of 526 plant taxa, 63 representatives are considered to be threatened in flora of Serbia.

In the flora of the Vučje hill were registered 9 strictly protected species: *Acer hyrcanum* subsp. *intermedium*, *Vinca herbacea*, *Sideritis montana*, *Adonis vernalis*, *Pulsatilla montana* subsp. *bulgarica*, *Gagea minima*, *Ophrys apifera*, *Orchis pallens* and *Stipa pulcherrima* (Anonimous, 2010).

Also, in the flora of the Vučje hill were registered 22 protected species, such as: *Achillea clypeolata*, *Corylus colurna*, *Allium albidum*, *Lilium martagon*, *Listera ovata*, *Prunus tenella*, *Ajuga laxmanii*, *Salvia austriaca* and other (Anonimous, 2010).

In the flora of the study area registered 33 species, that are covered by regulation on collecting, use and sale, such as: *Hedera helix*, *Asarum europaeum*, *Achillea millefolium*, *Pulmonaria officinalis*, *Primula veris*, *Rosa canina*, *Teucrium chamaedrys* and other (Anonimous, 2010a).

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