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## **The vascular flora of Mountain Sokolovica in Central Serbia (Serbia and Montenegro)**

### **Abstract**

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As a result of the floristic investigations of Mt. Sokolovica carried out between 1997 and 2000, 778 plant taxa belonging to 351 genera and 76 plant families were recorded. The phytogeographical analysis showed that this area can be characterized as submediterranean-central-euro-pean-pontic with domination of Submediterranean-Mediterranean chorological type (35.1%). The ecological analysis indicated that the flora of the investigated area is of hemicryptophyta type since the hemicryptophytes are represented with 49.5%, in the flora of Mt. Sokolovica. There are 21 endemic and endemorelic taxa in the flora of investigated area. Three plant species are included in the European Red Lists and 35 plant taxa are threatened in Mt. Sokolovica.

### **Introduction**

Mountain Sokolovica is floristically very interesting area concerning the fact that, according to Stevanović (1992) and Horvat & al. (1974), it is situated in the contact zone of Eastmoesian and Westmoesian subprovinces of the Moesian floristic Province in the Balkan peninsula. In the west it borders on the Illyrian Province and with height of 1050 m it provides adequate conditions for development of several characteristic altitudinal vegetation zones in this area. However, Sokolovica is not well explored mountain and no detailed studies on its flora and vegetation are available. The first data of its flora originated from Pančić (1874, 1884) and some notes of the vegetation of this area were published by Adamović (1909). More recently, fragmentary floristic and vegetation records have been published by Nikolić & al. (1986); Ružić & Randelović (1983) and Randelović & al. (1989). On the basis of these references, 173 plant taxa have already been recorded for Mt. Sokolovica.

The aims of this study are to accomplish the floristic knowledge of Mt. Sokolovica as well as region of central Serbia, and to highlight possible floristic and phytogeographic peculiarities or affinities with respect to the other siliceous (andezite) mountains in Serbia.

The present paper is a part of MSc degree of the first author, accomplished at the Botanical Institute of the University of Belgrade and entitled "The Analysis of the Flora of Mt. Sokolovica in Central Serbia"

### Study area

According to Marković (1980, 1995) Mt. Sokolovica is situated in Southern Serbia, while Stevanović (1992) considers it as a part of Central Serbia (Fig. 1). This mountain forms part of the Central Zone of the Old Rhodope Mountain Massif (Vasović & al. 1994). The geographical position of Sokolovica Mountain is between  $43^{\circ} 02' 10''$  to  $43^{\circ} 05' 57''$  and  $21^{\circ} 18' 42''$  to  $21^{\circ} 25' 58''$  and it is NW-SE oriented. The length of this mountain is c. 12 km; its lowest altitude is c. 300 m and its highest peak is 1050 m (Radulovac peak), which involves this mountain into the group of middle height mountains of the siliceous Rhodope massif in Serbia (Marković 1980).

### Geology

The largest area of Mt. Sokolovica forms part of the andezite Lece complex, which is the most dominant volcanic zone in Serbia with total area of 700 km<sup>2</sup>. This volcanic com-

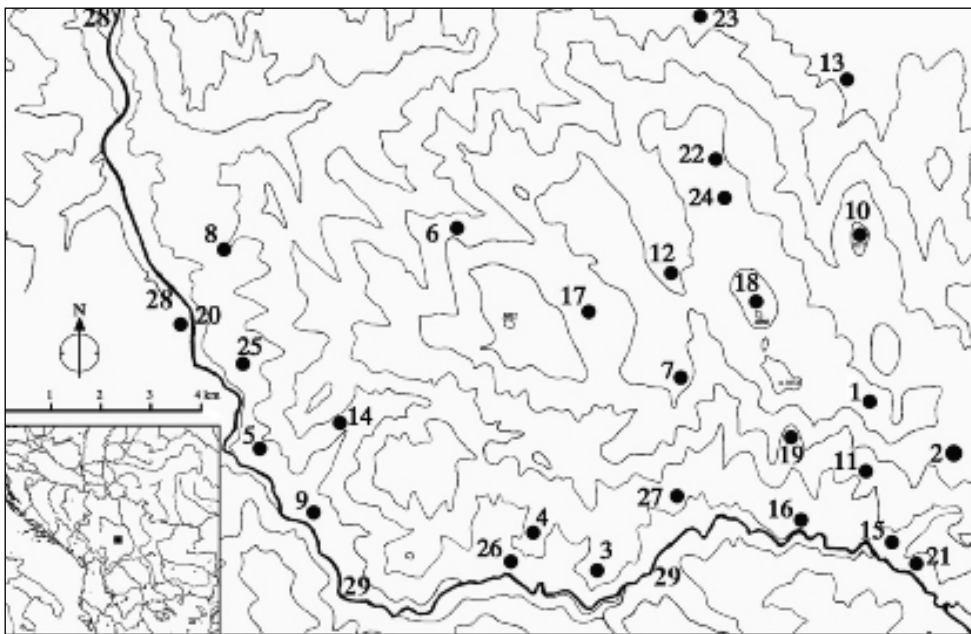


Fig. 1. Topographic map of Mt. Sokolovica. Numbers indicate localities referred to by code number in the list taxa in Table 2.

plex is in the borderline between Serbia-Macedonian mass and zone of the river Vardar. This volcanism is of an age of Lower Oligocene and it is made up of volcanic - andezite rocks (amphibolitic, amphibol-pyroxenic, pyroxenic, biotitic and quartzandezitic), dacit-andezite rocks and pyroclastitics (volcanic breccias, volcanic conglomerates and tuffs) (Rakičević 1955). Eastern and northern parts of the studied area are made up of a complex

of gneisses and micaschists of the Paleozoic which are part of the old Rhodope massif. These complexes of gneisses and micaschists in the northern part of Mt. Sokolovica are covered with younger eruptive and sedimentary formations from the Cretaceous (Rakičević 1955). The valleys of Kosanica and Prolomska rivers are deposited by the alluvial sediments of the Neogene (Malešević & al. 1978).

**Climate**

The climate of the Mt. Sokolovica (the upper altitudinal zone), according to Rakičević (1980), can be classified into II-9 type or “Kopaonik region climate type” which is characterized by its temperate mountain climate with a semi-arid period during the summer (Fig. 2), with the mean annual temperature amplitude c. 22°C and with a total precipitation of c. 800 mm.

Since there was no meteorological station in Mt. Sokolovica, data from the nearest thermopluviometric station of Kuršumljija city and data published by the Federal Hydro meteorological Institute for the period between 1961 to 1990 (Table 1) were used. On the basis of these records, ombrothermic diagram was made (according to Walter 1955) for this area (Fig. 2). The mean annual temperature of Kuršumljija city is 9.45°C, and the mean annual rainfall for this area is 641 mm. This combination of temperature and rainfall shows transitional characteristics from modified-Mediterranean to moderate climate type (Mačejka 1984) and it is quite similar to the climate of lower altitudinal zone of Mt. Sokolovica.

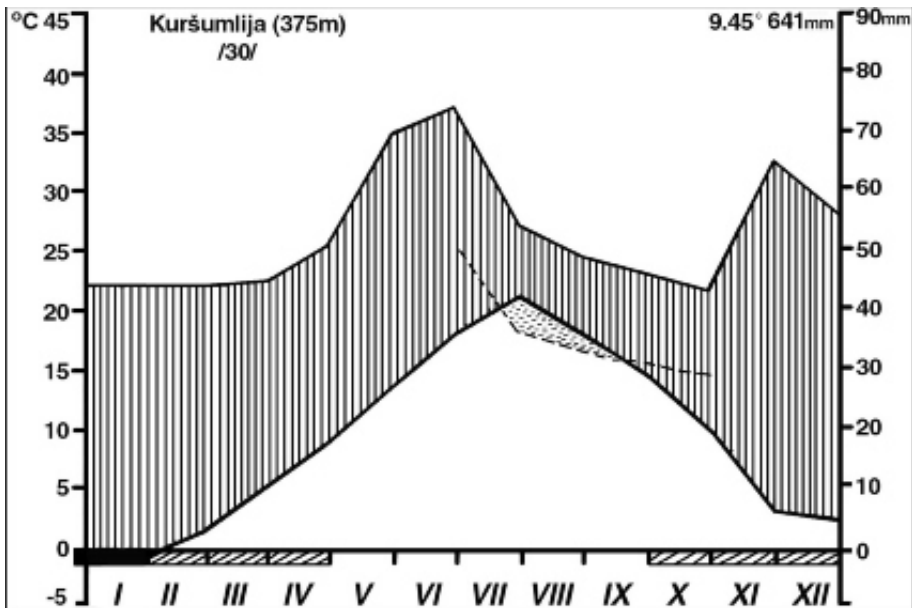


Fig. 2. Ombrothermic diagram of Kuršumljija station.

Table 1. Meteorological data of Kuršumljija station, based on the period 1961-1990 (Federal Hydrometeorological Institute).

Month	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Year
Mean temperature (°C)	-1.0	1.4	5.1	8.9	13.5	17.8	21.0	17.9	14.3	9.7	2.7	2.1	9.4
Precipitation (mm)	44	44	45	51	70	74	54	49	46	43	65	56	641

## Vegetation

The forest vegetation of the lower parts of Mt. Sokolovica belongs to the zone of deciduous broad-leaved thermophilous oak forests of the alliances *Quercion frainetto* Ht. 1954 -association *Quercetum farnetto-cerris* Rudski (1940) 1949- and *Syringo-Carpinion orientalis* Jakucs (association *Quercu-Carpinetum orientalis* H-ic. 1939). The last association is more dominant in Mt. Sokolovica and characterized by the presence of *Quercus pubescens* and *Carpinus orientalis* forest. This xerophilous community inhabits S and SW exposed slopes at the altitude between 450 to 600 m. At higher altitudes and in the NW exposed slopes of Mt. Sokolovica, deciduous mesophilous oak forest dominates which is characterized by the presence of *Quercus petraea* and *Carpinus betulus* - *Quercu-Carpinetum* Rudski (1940) 1949 - within alliance *Carpinion betuli* Issl. 1931 em. Oberd. 1953. At the highest altitude (> 700 m) the climate becomes temperate-mountain, as shown by the dominant formations of beech forest (*Fagetum moesiaca* B. Jov. 1976) and relic polydominant community of Turkish hazel and Moesian beech - *Corylo colurnae-Fagetum* B. Jov. (1955) 1979-, of the alliance *Fagion moesiaca* Blečić & Lakušić 1970. The banks of the river Kosanica are dominated by *Salix alba* and *Populus nigra* forests - association *Salici-Populetum nigrae* Parabučki 1965 of the alliance *Salicion albae* Soó (1930) 1940 -.

The vegetation cover of Mt. Sokolovica is marked also by the presence of hilly meadows of the alliance *Chrysopogono-Danthonion calycinae* Kojić 1957, which is represented by three associations: *Festuco-Chrysopogonetum grylli* N. Randj. 1977 is located in the large part of investigated area at the altitude between 300 to 500 m in the zone of oak forests; *Inulo-Danthonietum calycinae* K. Stanković-Tomić 1975 grows at S and SW slopes near the village Rudare at the altitude of 600-700 m.; *Diantho-Armerietum rumelicae* N. Randj. 1977 grows in the zone of beech forest at the altitude of 750-850 m.

Vegetation of hilly pastures is represented by two associations of the alliance *Scabioso-Trifolium dalmatici* H-ic & N. Randj. 1973: *Astragalo-Calaminthetum alpinae* H-ic & N. Randj. 1973 is widespread in this mountain and developed in the zone of oak forest at the altitude between 500 to 750 m; *Sedo-Dianthetum pinifoliae* N. Randj. 1974 which grows on the SW exposed rocky slopes in the contact zone with vegetation of the rocks.

Mountain siliceous rocky vegetation is well developed and it is represented with dominance of endemic species *Sedum stefco* as well as *Jovibarba heuffelii* and *Sempervivum zeleborii*. This community grows on the andezite rock crevices at the highest peaks of Mt. Sokolovica.

Along the pathway and in the clearings of beech forest we frequently found secondary types of vegetation represented by the association *Atropetum belladonnae* Br.-Bl. 1930 and community of *Pteridium aquilinum*.

### Material and methods

The study is based on literature data (Nikolić & al. 1986; Randelović & al. 1989; Ružić & Randelović, 1983), herbarium collections (BEO, BEOU) and continuous field observations carried out between 1997 and 2000. Investigated localities are listed in Table 2. There are corresponding numbers in the list of taxa as well as on the Fig. 1. Herbarium specimens are deposited at the Institute of Botany and Botanical Garden, Faculty of Biology, University of Belgrade (BEOU).

The nomenclature follows Med-Checklist (Greuter & al. 1984-1989) and Flora Europaea (Tutin & al. 1964-1980). For the floristic elements, chorological groups and chorological types classifications of Meusel & al. (1965, 1978), Meusel & Jäger (1992) and Stevanović (1992) for the territory of Serbia were used. The abbreviations for the chorological group are listed in Table 3. For the attribution of life forms the criteria proposed by Raunkiaer (1934), Mueller-Dombois & Ellenberg (1974) and Stevanović (1992) were followed.

In the catalogue, the records supported by voucher (herbarium) specimens are marked with italics numbers. Abbreviation *obs.* means observation only, no herbarium specimens. The plant list also contains literature data supported by bibliographical references. An asterisk (\*) indicates Balkan endemic and endemorelic plant taxa. The sequence of families, genera and species in the plant list is alphabetical.

Table 2. List of localities.

1. Aleksino Brdo	16. Prolom Banja
2. Bačije summit	17. Pupavičke Livade
3. Duboki Potok	18. Radulovac summit
4. Gornje Selo	19. Ravan
5. Jovanovo Brdo	20. Rudare village
6. Krompirište summit	21. Salašine summit
7. Kršanjak summit	22. Sokolov Krš
8. Lubnički Krš	23. Sokolovica village
9. Mala Lubnica village	24. Štacije summit
10. Mali Krš	25. Veliki Do
11. Miljkova Ravan	26. Veliko Pupavce village
12. Miloševa Voda	27. Vukovići village
13. Pećanci village	28. Kosanica river
14. Presla summit	29. Prolomska river
15. Prodanov Potok	

**RESULTS****List of vascular flora***PTERIDOPHYTA**ASPIDIACEAE*

*Dryopteris filix-mas* (L.) Schott - G rhiz - Hol (B-T) - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 70; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1260  
*Polystichum setiferum* (Forsk.) Woynar - Ch herb semiros - Cosm - (13, 22) *Fagetum moesiacaе*, 750 m, 1013

*ASPLENIACEAE*

*Asplenium adiantum-nigrum* L. - Ch herb caesp - Sub-Cosm - (6, 14) *Quercu-Carpinetum*, 750 m, 1692; (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 430; (15, 21) rocks, 600 m, 81  
*A. septentrionale* (L.) Hoffm. - Ch herb caesp - Hol (T) - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 44; (9) *Quercetum farnetto-cerris*, wet place, 500 m, 75  
*A. trichomanes* L. - Ch herb caesp - Cosm - (15, 21) rocks, 600 m, 82; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1015

*ATHYRIACEAE*

*Cystopteris fragilis* (L.) Bernh. - Ch herb semiros - Hol (A-M) - (1, 12) *Quercetum farnetto-cerris*, 700 m, 926; (10) *Fagetum moesiacaе*, rocks, 930 m, 1435

*EQUISETACEAE*

*Equisetum arvense* L. - G rhiz - Hol (B-T) - (1, 12) roadsides, 800 m, 849; (16, 27) *Quercetum farnetto-cerris*, by a stream, 600-650 m, 658; 1718

*HYPOLEPIDACEAE*

*Pteridium aquilinum* (L.) Kuhn - G rhiz - Cosm - (13, 22) *Fagetum moesiacaе*, 750 m, 961

*POLYPODIACEAE*

*Polypodium vulgare* L. - Ch herb caesp - Hol (B-M) - (12, 23) *Fagetum moesiacaе*, 750 m, 116; (24) *Corylo colurnae-Fagetum*, 990 m, 1179

*SPERMATOPHYTA**GYMNOSPERMAE**PINACEAE*

*Picea abies* (L.) Karsten - P scap - Adv - (1, 12) *Fagetum moesiacaе*, roadsides, 850 m, 1096

*CUPRESSACEAE*

*Juniperus communis* L. - P caesp/P scap - Hol (B-SM) - (8, 20) roadsides, 500 m, 1788

ANGIOSPERMAE  
DICOTYLEDONES

ACERACEAE

- Acer campestre* L. - P scap - CE - (13, 22) *Fagetum moesiacaе*, 850 m, 992; (8, 20) *Quercu-Carpinetum orientalis*, 450-550 m, 1329; 493; (16, 27) meadow, 600 m, 778  
*A. monspessulanum* L. - P scap - Sub-Med - (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 293; *Festuco-Chrysopogonetum grylli*, 450 m, 1326  
*A. platanoides* L. - P scap - CE - (13, 22) *Fagetum moesiacaе*, 850 m, 1005; (24) *Corylo colurnae-Fagetum*, 990 m, 1194  
*A. pseudoplatanus* L. - P scap - CE - (13, 22) *Fagetum moesiacaе*, 900 m, 994; *Corylo colurnae-Fagetum*, rocks, 1017 m, 1257  
*A. tataricum* L. - P scap - Pont-S-Sib - (25) *Quercetum farnetto-cerris*, 500 m, 1612; (26) by Prolomska river, 500 m, 524

ADOXACEAE

- Adoxa moschatellina* L. - G rhiz - Hol (B-T) - (10) *Fagetum moesiacaе*, rocks, 936 m, 1105

AMARANTHACEAE

- Amaranthus retroflexus* L. - T scap - Adv - (5, 25) roadsides, 450 m (*obs.*)

ARALIACEAE

- Hedera helix* L. - S lig - CE-Sub-Med - (13, 22) *Fagetum moesiacaе*, 800 m, 965

ARISTOLOCHIACEAE

- Aristolochia clematitis* L. - G rad - Sub-Med-Pont-S-Sib - Randelović & al. (1989)  
*Asarum europaeum* L. - Ch herb rept - CE - Randelović & al. (1989); (1, 12) *Quercetum farnetto-cerris*, 750 m, 859; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1211

ASCLEPIADACEAE

- Vincetoxicum hirundinaria* Medicus - H scap - Sub-Med-Pont-S-Sib - (10) *Fagetum moesiacaе*, rocks, 930 m, (*obs.*)

BORAGINACEAE

- Anchusa officinalis* L. - H scap bienn - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (1, 12) roadsides, 800 m, 869; (16, 27) ruderal place, 600 m, 1594; meadow, 600 m, 712  
*Cerinth minor* L. - H scap bienn - EA (Sub-Med) - (1, 12) roadsides, 850 m, 804  
*Cynoglossum montanum* L. - H scap bienn - Sub-Med-Pont-S-Sib - (9) *Inulo-Danthonietum calycinae*, 600 m, 1345  
*Cynoglossum officinale* L. - H scap bienn - Pont-S-Sib-Sub-Med - Randelović & al. (1989)  
*Echium italicum* L. - H scap bienn - Sub-Med-Pont-S-Sib - (9) *Inulo-Danthonietum calycinae*, 600 m, 1341  
*Echium vulgare* L. - H scap - Pont-S-Sib-Sub-Med - (16, 27) rocky places, 600 m, 765  
*Lithospermum arvense* L. - T scap - EA (SB-M) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 198

- L. officinale* L. - H scap - EA (Pont-S-Sib) - Randelović & al. (1989)
- L. purpureocaeruleum* L. - H scap - Sub-Med-Pont-S-Sib - (1) *Quercus-Carpinetum orientalis*, rocky places, 750 m, 1162
- Myosotis arvensis* (L.) Hill - H scap bienn - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 326; (26) roadsides, 500 m, 562
- M. ramosissima* Rochel in Schultes - T scap - Sub-Med-Pont-S-Sib - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 236; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 176; (23) meadow, 650 m, 153
- M. sparsiflora* Mikan ex Pohl - T scap - Pont-S-Sib-CE - (1) *Quercus-Carpinetum orientalis*, 700 m, 1156
- M. stricta* Link ex Roemer & Schultes - T scap - EA (Pont-S-Sib-CE) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 311
- M. sylvatica* subsp. *subarvensis* Grau - H scap - CE - (16, 27) rocky places, 600 m, 765
- Onosma echioides* L. - Ch suffr caesp - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 301; (16, 27) rocky places, 600 m, 694
- Pulmonaria officinalis* L. - H scap - CE - Randelović & al. (1989); (9) *Quercetum farnetto-cerris*, wet place, 500 m, 74; (8, 20) *Quercus-Carpinetum orientalis*, 650 m, 10
- P. rubra* Scott - H scap - CE - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 104
- Symphytum officinale* L. - H scap - CE - Randelović & al. (1989)
- S. tuberosum* subsp. *angustifolium* (A. Karner) Nyman - G tub - CE-Sub-Med - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 230

#### CAMPANULACEAE

- Campanula bononiensis* L. - H scap - EA (Sub-Med-Pont-S-Sib) - (17) meadow, 700 m, 1545; (14, 25) meadow, 700 m, 1687
- C. glomerata* subsp. *hispida* (Witasek) Hayek - H scap - EA (SB-T) - (17) meadow, 700 m, 1512
- C. lingulata* Waldst. & Kit. - H scap bienn - Sub-Med - (16, 27) meadow, 600 m, 674; 739
- C. patula* L. - H scap - CE - (1, 12) meadow, 800 m, 837
- C. persicifolia* L. - H scap - CE - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 900; (16, 27) meadow, 600 m, 772
- C. rapunculus* L. - H scap bienn - Sub-Med-Pont-S-Sib- (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1307; (16, 27) meadow, 600 m, 714
- \**C. sparsa* subsp. *sphaerotrix* (Griseb.) Hayek - T scap - END - (6, 14) *Quercus-Carpinetum*, 600 m, 1651; (17) meadow, 700 m, 1563; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 920
- C. trachelium* L. - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, (*obs.*); (14, 25) meadow, 700 m, (*obs.*); (22, 24) *Fagetum moesiacaе*, 900 m, 1761
- Jasione heldreichii* Boiss. & Orph. - H scap bienn - SEM - (6, 14) rocks, 800 m, 1714

#### CANNABACEAE

- Humulus lupulus* L. - SH herb - CE - (20) ruderal place, 550 m, 1054



## CAPRIFOLIACEAE

- Lonicera caprifolium* L. - S lig - Sub-Med - (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 521; (24) *Corylo columnae-Fagetum*, 990 m, 1178
- Sambucus ebulus* L. - G rad/H scap - Sub-Med-CE - Randelović & al. (1989); (25) *Quercetum farnetto-cerris*, 500 m (obs.)
- Sambucus nigra* L. - P caesp/P scap - CE - (13, 22) *Fagetum moesiacaе*, 800 m, 995
- Viburnum lantana* L. - P caesp/P scap - Sub-Med-CE - Randelović & al. (1989); (25) *Quercetum farnetto-cerris*, 500 m, 1621

## CARYOPHYLLACEAE

- Agrostemma githago* L. - T scap - EA (T-M) - Randelović & al. (1989); (16, 27) meadow, 600 m (obs.)
- Arenaria serpyllifolia* L. - T scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco Chrysopogonetum grylli*, 450 m, 161; 312
- Cerastium fontanum* Baumg. - Ch herb rept/H scap - Hol (A-T) - (1, 12) meadow, 750 m, 871
- C. glomeratum* Thuill. - T scap - Sub-Med-CE - (10) meadow, 800 m, 1429; (1, 19) rocky places, 700 m, 212; *Quercus-Carpinetum orientalis*, 650 m, 422
- C. pumilum* subsp. *pallens* (F. W. Schultz) Schinz & Thell. - T scap semiros - Pont-S-Sib-Sub-Med - (1, 12) meadow, 750 m, 810
- Dianthus armeria* subsp. *armeriastrum* (Wolfner) Velen. - T scap/H scap bienn - Sub-Med-Pont-S-Sib - (10) rocks, 930 m, 1458; (13, 22) meadow, 650 m, 985
- \**D. cruentus* subsp. *turcicus* (Velen.) Stoj. & Acht. - H caesp - END - (10) rocks, 930 m, 1377; (6, 14) meadow, 750 m, 1675; (1, 19) rocky places, 700 m, 447; (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 695
- \**D. giganteus* subsp. *croaticus* (Borbás) Tutin - H scap caesp - END - (10) rocks, 930 m, 1437; (22) *Fagetum moesiacaе*, rock bases, 950 m, 1006
- \**D. pinifolius* Sibth. & Sm. subsp. *pinifolius* - H caesp - END - (14, 25) rocky places, 650 m, 1629
- D. pontederiae* Kerner - H scap caesp - Pont-S-Sib - (26) roadsides, 500 m, 542
- Herniaria glabra* L. - T scap - EA (Sub-Med-Pont-S-Sib) - (1, 19) rocky places, 650 m, 459
- H. incana* Lam. - H caesp - Sub-Med-Pont-S-Sib - (6, 14) *Quercus-Carpinetum*, 750 m, 1693
- Moehringia trinervia* (L.) Clairv. - T scap/H scap bienn - EA (B-T) - (16, 27) ruderal place, 600 m, 473
- Moenchia mantica* (L.) Bartl. - T scap - Sub-Med - (1, 10) meadow, 800 m, 1431; (16) ruderal place, 600 m, 458; (20) Ružić & Randelović (1983)
- Petrorhagia illyrica* subsp. *haynaldiana* (Janka) P. W. Ball & Heywood - H caesp/Ch herb caesp - Sub-Med - (20) rocky places, Nikolic *et al.* (1986); (6, 14) rocks, 800 m, 1704; (25) rocky places, 500 m, 1602
- P. saxifraga* (L.) Link - H caesp/Ch herb caesp - Sub-Med - (9) *Inulo-Danthonietum calycinae*, 600 m, 1337; (10) rocks, 930 m, 1477; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1034

- Saponaria officinalis* L. - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (16) ruderal place, 600 m, 1596
- Scleranthus annuus* L. - T scap/H scap bienn - Sub-Med-CE - (1, 12) *Fagetum moesiacaе*, 850 m, 1743; (19) rocky places, 700 m, 891
- S. perennis* subsp. *dichotomus* (Schur) Stoj. & Stefanov - Ch herb caesp rept - Sub-Med - (17) meadow, 700 m, 1565; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 296; (16, 27) rocky places, 600 m, 652
- Silene armeria* L. - T scap - Sub-Med-Pont-S-Sib - (10) rocks, 930 m, 1381; 1481
- S. conica* L. - T scap - Sub-Med - (9) *Inulo-Danthonietum calycinae*, 600 m, 1356
- S. coronaria* (L.) Clairv. - H scap semiros - EA (T-SM) - Randelović & al. (1989); (16, 27) meadow, 600 m, 693
- S. dichotoma* subsp. *racemosa* (Otth.) Graebner - T scap - Pont-S-Sib-Sub-Med - (20) rocky places, Nikolic *et al.* (1986)
- S. flos-cuculi* (L.) Clairv. - H scap - CE-Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1269
- S. italica* (L.) Pers. subsp. *italica* - H scap ros - Sub-Med - (1, 12) meadow, 750 m, 820; (26) roadsides, 500 m, 555; (16, 27) rocky places, 600 m, 769
- S. italica* subsp. *nemoralis* (Waldst. & Kit.) Nyman - H scap ros - Sub-Med - (10) *Fagetum moesiacaе*, rocks, 930 m, 1367
- S. latifolia* subsp. *alba* (Miller) Greuter & Burdet - H scap bienn - EA (T-SM) - (13) *Fagetum moesiacaе*, 850 m, 1019; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1247; (16, 27) meadow, 600 m, 715
- S. otites* (L.) Wibel - H scap ros bienn - EA (Pont-S-Sib) - (6, 14) rocks, 800 m, 1707; (25) *Quercetum farnetto-cerris*, 650 m, 1640
- S. viridiflora* L. - H semiros - Sub-Med-Pont-S-Sib - (10) *Fagetum moesiacaе*, rocks, 930 m, 1478; (25) *Quercetum farnetto-cerris*, 500 m, 1607
- S. viscaria* (L.) Borkh. - H scap semiros - CE-Pont-S-Sib - (10) rocks, 930 m, 1366
- S. vulgaris* (Moench) Garcke - H scap/G rad - EA (B-M) - (17) meadow, 700-850 m, 878; 1510
- Stellaria graminea* L. - H scap - EA (B-M) - (1, 12) meadow, 750 m (*obs.*)
- S. holostea* L. - Ch herb scap rept - CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 395; (12, 23) *Fagetum moesiacaе*, 750 m, 108
- S. media* (L.) Vill. - T rept - Hol (B-T) - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1201
- Vaccaria hispanica* (Miller) Rauschert - T scap - EA (Sub-Med-Pont-S-Sib) - (9) roadsides, 500 m (*obs.*)

#### CELASTRACEAE

- Evonymus europaeus* L. - P caesp/Mi P scap - CE - (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 291; (16, 27) meadow, 600 m, 776
- E. latifolius* (L.) Miller - P caesp/P scap - CE - (18) *Fagetum moesiacaе*, 1050 m, 1173
- E. verrucosus* Scop. - P caesp/P scap - CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 394

#### CHENOPODIACEAE

- Chenopodium album* L. - T scap - EA (B-M) - (1, 12) meadow, rocky places, 750 m, 1752

*C. murale* L. - T scap - Cosm - (5, 25) roadsides, 450 m, 1782

*C. polyspermum* L. - T scap - EA (T-M) - (5, 25) roadsides, 450 m, 1781

#### CISTACEAE

*Helianthemum ledifolium* subsp. *lasiocarpum* (Jacques & Herincq) Nyman - T scap - Sub-Med - (1, 19) rocky places, 700 m, 873; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1038

*H. nummularium* (L.) Miller - Ch suffr caesp - Sub-Med-CE - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 548; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 768

*H. salicifolium* (L.) Miller - T scap - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 527; (9) *Inulo-Danthonietum calycinae*, 600 m, (obs.); (1, 19) rocky places, 650 m, 460

#### COMPOSITAE

*Achillea coarctata* Poirlet in Lam. - H scap - Pont-S-Sib - (9) roadsides, 500 m, 1145; *Inulo-Danthonietum calycinae*, 600 m, 1339; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 283

*A. collina* J. Becker ex Reichenb. - H scap - Pont-S-Sib - (1) *Diantho-Armerietum rumelicae*, fields, 800 m, 1733; (16, 27) meadow, 600 m, 684

*A. crithmifolia* Waldst. & Kit. - H scap - Pont-S-Sib - (9) roadsides, 500 m, 1144; (17) meadow, 700 m, 1578; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 284

*A. grandifolia* Friv. - H scap - CE - (24) *Corylo colurnae-Fagetum*, 900-990 m, 1187; 1756

*A. millefolium* L. - H scap - Hol (B-SM) - Randelović & al. (1989); (13, 22) meadow, 600 m, 977

*A. nobilis* L. - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989)

*A. setacea* Waldst. & Kit. - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (20) Ružic & Randelović (1983)

*Anthemis arvensis* L. - T scap/H scap - CE - (1, 19) rocky places, 650 m, 467

*A. cretica* L. - H scap/Ch suffr caesp - (M)SEM - (1, 12) meadow, rocky places, 750 m, 936; (19) rocky places, 650 m, 420; (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 299

*A. tinctoria* subsp. *australis* R. Fernandez - H scap bienn - EA (B-T) - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 567; (16, 27) meadow, 600 m, 781

*Arctium lappa* L. - H scap bienn - EA (T-SM) - Randelović & al. (1989)

*Artemisia absinthium* L. - Ch suffr caesp - EA (SB-M) - Randelović & al. (1989)

*A. annua* L. - T scap - EA (SB-M) - (16, 27) ruderal place, 650 m (obs.)

*A. vulgaris* L. - H scap - Hol (B-M) - (16) ruderal place, 600 m, 1587

*Aster linosyris* (L.) Bernh. - H scap - Pont-S-Sib - (8, 20) meadow, 500 m, 1789

*Bellis perennis* L. - H ros - EA - (26) meadow, rocky places, 500 m (obs.)

*Bidens tripartita* L. - T scap - EA (SB-T) - (6, 14) *Quercu-Carpinetum*, 800 m (obs.)

*Carduus acanthoides* L. - H scap bienn - Sub-Med-Pont-S-Sib - (16, 27) ruderal place, 650 m (obs.)

*Centaurea apiculata* subsp. *spinulosa* (Rochel ex Sprengel) Dostal - H scap - Sub-Med-

- Pont-S-Sib - (6, 14) meadow, 750 m, 1672; (17) meadow, 700 m, 1553; (20) Ružić & Randelović (1983)
- C. biebersteinii* DC. - H scap - Pont-S-Sib - (10) rocks, 930 m, 1464; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1028; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1769
- C. cyanus* L. - T scap - EA - (20, 25) meadow, 500 m (*obs.*)
- C. jacea* L. - H scap - CE - (17) meadow, 700 m, 1551; (20) Ružić & Randelović (1983); (14, 25) meadow, 700 m, 1686
- C. pannonica* (Heuffel) Simonkai - H scap - Pont-S-Sib-Sub-Med - (17) meadow, 700 m, 1546; (20, 25) meadow, 500 m, 1609
- C. rhenana* Boreau - H scap bienn - Pont-S-Sib - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 968
- Chamomilla recutita* (L.) Rauschert - T scap - Cosm - Randelović & al. (1989)
- Chondrilla juncea* L. - H scap - Sub-Med-Pont-S-Sib - (20) ruderal place, 550 m, 1030
- Cichorium intybus* L. - H scap - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (10) rocks, 930 m, 1490
- Cirsium arvense* (L.) Scop. - G rad - EA (SA-M) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1324
- C. candelabrum* Griseb. - H scap bienn - Sub-Med - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, (*obs.*)
- C. creticum* (Lam.) D'Urv. - H scap - Sub-Med - (1, 12) *Fagetum moesiacaе*, 850 m (*obs.*)
- C. eriophorum* (L.) Scop. - H scap - (M)SEM - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, (*obs.*)
- C. grecescui* Rouy - H scap bienn - Pont-S-Sib - (1, 12) *Fagetum moesiacaе*, 850 m, 1751
- C. vulgare* (Savi) Ten. - H scap bienn - EA (B-M) - (5, 25) roadsides, 450 m, 1783
- Conyza canadensis* L. - T scap - Adv - (16, 27) ruderal place, 650 m (*obs.*)
- Crepis biennis* L. - H scap bienn - CE - (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 699
- C. foetida* subsp. *rhoeadifolia* (Bieb.) Čelak - T scap/H scap bienn - Pont-S-Sib-Sub-Med - (16) ruderal place, 600 m, 1595; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1062
- C. nicaensis* Balb. - T scap/H scap bienn - Sub-Med - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 901
- C. pulchra* L. - T scap - EA (Sub-Med) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 327
- C. sancta* (L.) Bobcock - T scap - Sub-Med - (9) roadsides, 500 m, 1146; (1, 19) rocky places, 650 m, 225
- C. setosa* Haller fil. - T scap - Sub-Med - (1, 19) rocky places, 700 m, 387
- C. tectorum* L. - T scap - EA (B-T) - (1, 12) roadsides, 800 m, 932; (17) meadow, 700 m, (*obs.*)
- Crupina vulgaris* Cass. - T scap - Sub-Med-Pont-S-Sib - (16, 27) meadow, 600 m, 701
- Doronicum hungaricum* Reichenb. fil. - G rhiz - CE - (10) rocks, 930 m, 1378
- Echinops bannaticus* Rochel ex Schrader - H scap - Sub-Med-Pont-S-Sib - (20) ruderal place, 550 m, 1041

- E. ritro* subsp. *ruthenicus* (Bieb.) Nyman - H scap - Pont-S-Sib-Sub-Med - (14, 25) meadow, 700 m, 1677
- Erigeron acer* L. - T scap - EA (B-T) - (4, 26) meadow, 700 m, 1716
- Erigeron annuus* (L.) Pers. - T scap/H scap bienn - Adv - (16, 27) rocky places, 600 m, 721
- Filaginella uliginosa* (L.) Opiz - T scap - EA (B-T) - (6, 14) *Quercus-Carpinetum*, 800 m, 1667
- Filago pyramidata* L. - T scap - Sub-Med - (1, 19) rocky places, 650 m, 812
- Hieracium bauhini* Schult.- H rept - CE - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 899; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonietum grylli*, 450 m, 1313; (16, 27) meadow, 600 m, 751
- H. cymosum* L. - H scap - EA (T-SM) - (1, 19) rocky places, 650 m, 863
- H. echioides* Lumn. - H scap - EA (Pont-S-Sib) - (1, 12) meadow, rocky places, 750 m, 908; (10) rocks, 900-930 m, 1447; (19) rocky places, 650 m, 382
- H. hoppeanum* Schultes - H ros - (M)SEM - (8, 20) *Festuco-Chrysopogonietum grylli*, 450 m, 1311
- H. murorum* L. - H scap - CE - (1, 12) meadow, rocky places, 750 m, 1753
- H. pilosella* L. - H ros - CE-Pont-S-Sib - Randelović & al. (1989); (20) Ružić & Randelović (1983)
- H. racemosum* Waldst. & Kit. ex Willd. - H scap - CE-Sub-Med - (5) *Quercus-Carpinetum orientalis*, rocky places, 500 m, 1785; (13, 22) *Fagetum moesiacaе*, 800 m, 1004; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1634; (24) *Fagetum moesiacaе*, 900 m, 1762
- H. sabaudum* L. - H scap - CE - (10) rocks, 930 m, 1445
- H. umbellatum* L. - H scap - Hol (B-T) - (17) meadow, 700 m, 1500
- H. ×tephrocephalum* Vuk. - H scap - Pont-S-Sib-Sub-Med - (10) rocks, 930 m, 1385
- Hypochoeris maculata* L. - H ros - Hol (T) - (1, 10) meadow, 800 m, 1409; (17) meadow, 700 m, 1498; (20) Ružić & Randelović (1983)
- H. radicata* L. - H ros - CE-Sub-Med - (10) *Fagetum moesiacaе*, rocks, 930 m, 1369; (13, 22) *Fagetum moesiacaе*, 750 m, 964; (20) Ružić & Randelović (1983)
- Inula britannica* L. - H scap - CE-Sub-Med - (6, 14) meadow, 750 m, 1676; (20) ruderal place, 550 m, 1032
- I. conyza* DC. - H scap - Sub-Med-Pont-S-Sib - (13, 22) *Fagetum moesiacaе*, 750 m, 966; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1632
- I. hirta* L. - H scap - CE-Pont-S-Sib - (1, 19) rocky places, 650 m, 845; (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 711
- I. oculus-christi* L. - H scap - Pont-S-Sib-Sub-Med - (9) *Inulo-Danthonietum calycinae*, 600 m, 1349; (10) rocks, 930 m, 1446
- I. salicina* subsp. *aspera* (Poiret) Hayek - H scap - EA (Pont-S-Sib-Sub-Med) - (17) meadow, 700 m, 1522; (20, 25) meadow, 500 m, 1617
- Lactuca quercina* subsp. *chaixii* (Vill.) Čelak - H scap bienn - EA (Pont-S-Sib) - (18) *Fagetum moesiacaе*, 1050 m, 1169; (22) *Fagetum moesiacaе*, rocks, 950 m, 1772
- L. serriola* L. - H scap bienn/T scap - EA (T-M) - (16) ruderal place, 600 m, 1586; (27) ruderal place, 650 m, 1726
- L. viminea* (L.) J. & C. Presl - H scap bienn - Sub-Med - (16) ruderal place, 600 m (*obs.*)

- Lapsana communis* L. - T scap - EA (T-SM) - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 378; (16, 27) *Quercetum farnetto-cerris*, 600 m, 657
- Leontodon crispus* subsp. *asperrimus* (Willd.) Finch - H ros - Sub-Med - (1, 12) meadow, 750 m, 929; (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 544; (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 295
- L. hispidus* L. - H ros - Pont-S-Sib-Sub-Med - (17) meadow, 700 m, 1506; (20) Ružic & Randelović (1983)
- Leucanthemum vulgare* L. - H scap - CE-Sub-Med - (1, 12) *Fagetum moesiacaе*, 750 m, 870; (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1321
- Logfia arvensis* (L.) J. Holub - T scap - EA (T-SM) - (17) meadow, 700 m, 1570; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1287
- Matricaria perforata* Merat - T scap/H scap bienn - Sub-Cosm - (17) meadow, 700 m, 1575; (16, 27) meadow, ruderal places 600-650 m, 785; (obs.)
- Mycelis muralis* (L.) Dumort. - H scap - EA (B-SM) - (10) *Fagetum moesiacaе*, rocks, 930 m, 1441
- Petasites albus* (L.) Gaertner - G rad - CE - (9) roadsides, 500 m, 1141
- Picris hieracioides* L. - H scap bienn - EA (T-M) - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1063
- Pulicaria dysenterica* (L.) Bernh. - H scap - Sub-Med-Pont-S-Sib - (16, 27) ruderal place, 650 m, 1727
- Scorzonera cana* (C. A. Meyer) Hoffm. - H scap - Pont-S-Sib-Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 328
- S. hispanica* L. - H scap - Pont-S-Sib-Sub-Med - (16, 27) rocky places, 600 m, 696
- S. laciniata* L. - H scap bienn - Sub-Med-Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1276
- Senecio erucifolius* L. - H scap - EA (Pont-S-Sib-CE) - (25) *Quercetum farnetto-cerris*, 500 m, (obs.)
- S. papposus* (Reichenb.) Less. - H ros - (M)SEM - (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1217
- S. vernalis* Waldst. & Kit. - T scap - Pont-S-Sib-Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 325
- Tanacetum macrophyllum* (Waldst. & Kit.) Schultz - H scap - CE - (22) *Fagetum moesiacaе*, rocks, 950 m, 1775
- T. parthenium* (L.) Schultz Bip. - H scap - CE-Pont-S-Sib - (20, 25) meadow, 500 m (obs.)
- T. vulgare* L. - H scap - EA (Pont-S-Sib-Sub-Med) - Randelović & al. (1989); (17) meadow, 700 m, 1548
- Taraxacum erythrospermum* Andr. ex Besser - H ros - Sub-Med-Pont-S-Sib - (1, 19) rocky places, 650 m, 214
- T. officinale* L. - H ros - Hol (B-T) - (20) Ružic & Randelović (1983); (25) meadow, 500 m (obs.)
- Tragopogon dubius* Scop. - H scap bienn - Pont-S-Sib-Sub-Med - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 344; (16, 27) meadow, 600 m, 773

*T. pratensis* subsp. *orientalis* (L.) Čelak - H scap - EA (SB-T) - (20) Ružic & Randelović (1983); (14, 25) rocky places, 650 m (*obs.*)

*Tussilago farfara* L. - G rhiz - EA (B-T) - Randelović & al. (1989); (26) roadsides, 500 m, 61

*Xanthium strumarium* L. - T scap - Sub-Cosm - (20) ruderal place, 550 m (*obs.*)

*Xeranthemum cylindraceum* Sibth. - T scap - Pont-S-Sib-Sub-Med - (25) rocky places, 500 m, 1616

#### CONVOLVULACEAE

*Convolvulus arvensis* L. - SG rhiz - Cosm - (16) ruderal place, 600 m, 1585; (20) Ružic & Randelović (1983)

*C. canthabrica* L. - H scap - Sub-Med-Pont-S-Sib - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 551; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1029; (16, 27) meadow, rocky places, 600 m, 774

#### CORNACEAE

*Cornus mas* L. - P caesp/P scap - Sub-Med-Pont-S-Sib - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1243; (12, 23) *Fagetum moesiacaе*, 750 m, 128

*C. sanguinea* L. - P caesp - CE - (8, 20) *Quercu-Carpinetum orientalis*, 550 m, 518

#### CORYLACEAE

*Carpinus betulus* L. - P scap - CE - (1, 12) *Fagetum moesiacaе*, 800 m, 885; (16, 27) *Quercetum farnetto-cerris*, 600 m, 668

*C. orientalis* Miller - P scap/Mi-Mes P caesp - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 322; (16, 27) *Quercetum farnetto-cerris*, 600 m, 780; (24) *Corylo colurnae-Fagetum*, 990 m, 1198

*Corylus avellana* L. - P caesp/P scap - CE - (16, 27) *Quercetum farnetto-cerris*, by a stream, 600 m, 670

*C. colurna* L. - P scap - CE - (13, 22) *Fagetum moesiacaе*, 850 m, 991

#### CRASSULACEAE

*Jovibarba heuffelii* (Schott) A. Love & D. Love - Ch ros succ - (M)SEM - (1, 19) rocky places, 700 m (*obs.*)

*Sedum acre* L. - Ch caesp succ - Sub-Med-CE - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 549; (9) *Inulo-Danthonietum calycinae*, 600 m, 1338; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 188

*S. annuum* L. - T succ - A-A - (9) *Inulo-Danthonietum calycinae*, 600 m, 1335; (10) rocks, 930 m, 1393; (22) *Fagetum moesiacaе*, rock bases, 950 m, 997

*S. caespitosum* (Cav.) DC. - T succ - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 190

*S. cepaea* L. - T succ - Sub-Med - (6, 14) *Quercu-Carpinetum*, 750 m, 1700; (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 379

*S. hispanicum* L. - Ch caesp succ - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 348; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 996

- S. rubens* L. - T succ - Sub-Med - (1, 19) rocky places, 700 m, 890  
 \**S. stefco* Stefanov - Ch caesp succ - END - (10) rocks, 930 m, 1390; (8, 20) *Festuco-Chrysopogonietum grylli*, 450 m, 189; 347  
*S. telephium* L. - Ch scap succ - EA (T-SM) - Randelović & al. (1989); (10) *Fagetum moesiaca*, rocks, 900 m, (obs.); (8, 20) *Quercus-Carpinetum orientalis*, 450-550 m, 292; 1061  
*Sempervivum zeleborii* Schott - Ch ros succ - Pont-S-Sib-Sub-Med - (1, 19) rocky places, 700 m (obs.)

## CRUCIFERAE

- Alliaria petiolata* (Bieb.) Cavara & Grande - H scap bienn - CE-Sub-Med - (16, 27) *Quercetum farnetto-cerris*, 600 m, 706  
*Alyssum alyssoides* (L.) L. - T scap - Sub-Med-Pont-S-Sib - (16, 27) rocky places, 600 m, 686  
*A. montanum* L. - Ch suffr rept - Sub-Med-CE - (10) rocks, 930 m, 1448; (8, 20) *Festuco-Chrysopogonietum grylli*, 450 m, 288; (5, 25) roadsides, 450 m, 1779; (16, 27) rocky places, 600 m, 685  
*A. repens* subsp. *trichostachyum* (Rupr.) Hayek - Ch suffr rept - Sub-Med - (1, 19) rocky places, 650-700 m, 376; 917; (16, 27) meadow, 600 m, 671  
*A. turkestanicum* Regel & Schmalh. - T scap - EA (Pont-S-Sib) - (26) rocky places roadsides, 600 m, 59  
*Arabidopsis thaliana* (L.) Heynh. - H ros bienn/T ros scap - EA (SB-M) - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1221  
*Arabis glabra* (L.) Bernh. - H scap bienn - Hol (SM-T) - (24) *Corylo colurnae-Fagetum*, 990 m, 1185; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 434  
*A. sagittata* (Bertol.) DC. - H ros bienn - Hol (SB-SM) - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 434  
*A. turrita* L. - H scap bienn - Sub-Med-Pont-S-Sib - (18) *Fagetum moesiaca*, 1050 m, 1171; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 228; *Fagetum moesiaca*, 750 m, 426  
*Aurinia saxatilis* subsp. *orientalis* (Ard.) T. R. Dudley - Ch suffr caesp - Sub-Med - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 998; 1233  
*Barbarea vulgaris* R. Br. - H scap - EA (B-M) - (18) *Fagetum moesiaca*, roadsides, 1050 m, 1167; (16, 27) ruderal place, 600 m, 470  
*Berteroa incana* (L.) DC. - H scap - EA (Pont-S-Sib) - (9) *Inulo-Danthonietum calycinae*, 600 m, 1340; (16) ruderal place, 600 m, 1593  
*Brassica oleracea* L. - Ch suffr caesp - Adv - (9) ruderal place, 600 m (obs.)  
*Calepina irregularis* (Asso) Thell. - T scap - Sub-Med-Pont-S-Sib - (16) ruderal place, 600 m (obs.)  
*Capsella bursa-pastoris* (L.) Medicus - T ros/H ros bienn - Cosm - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m (obs.)  
*Cardamine bulbifera* (L.) Crantz - G rhiz - CE - (1, 19) *Fagetum moesiaca*, 750 m, 367  
*C. hirsuta* L. - T scap - Sub-Med - (1, 10) *Fagetum moesiaca*, 800 m, 1094; (8, 20) *Festuco-Chrysopogonietum grylli*, 450 m, 174; (26) rocky places roadsides, 600 m, 52  
*C. impatiens* L. - H scap bienn - EA (T) - (1, 12) *Fagetum moesiaca*, 800 m, 875



- Draba muralis* L. - T scap - Sub-Med-CE - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 550 m, 241; (20) *Quercus-Carpinetum orientalis*, 450 m, 1332
- Erophila verna* subsp. *spathulata* (A. F. Lang) Walters - T ros - Sub-Med-Pont-S-Sib - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 48
- Erysimum cuspidatum* (Bieb.) DC. - T ros/H ros bienn - Pont-S-Sib - (20, 25) meadow, 500 m (*obs.*)
- E. diffusum* Ehrh. - H scap bienn - Pont-S-Sib - (1, 19) rocky places, 650 m, 372; (1, 19) rocky places, 700 m, 892
- Lepidium campestre* (L.) R. Br. - T scap/H scap bienn - Pont-S-Sib-Sub-Med - (1, 12) *Fagetum moesiacaе*, 850 m, 1747; (19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 463; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, (*obs.*)
- Lunaria annua* subsp. *pachyrhiza* (Borbás) Hayek - T scap/H scap bienn - Sub-Med - *Fagetum moesiacaе*, 800 m, 1008; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 227
- Peltaria alliacea* Jacq. - H scap - Sub-Med - (14, 25) *Quercetum farnetto-cerris*, 750 m, 1656
- Rorippa pyrenaica* (Lam.) Reichenb. - H scap semiros - Sub-Med-CE - (1, 19) *Fagetum moesiacaе*, by a stream, 750 m, 361; (16, 27) ruderal place, 650 m, 1724
- R. sylvestris* (L.) Besser - H scap - CE - (1, 12) roadsides, 700-800 m, 935; 928; *Fagetum moesiacaе*, 750-850 m, 872; 1739
- Sinapis arvensis* L. - T scap - Sub-Med-Pont-S-Sib - (16) ruderal place, 600 m (*obs.*); (26) meadow, rocky places, 500 m (*obs.*)
- Sisymbrium officinale* (L.) Scop. - T scap - EA (Pont-S-Sib-Sub-Med) - (16, 27) ruderal place, 600 m, 476
- Thlaspi alliaceum* L. - T scap semiros - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 177
- T. arvense* L. - T scap - EA (T-M) - (17) meadow, 700 m, 1516
- T. perfoliatum* L. - T scap semiros - Sub-Med-Pont-S-Sib - (1, 19) *Fagetum moesiacaе*, 750 m, 368; (12, 23) *Fagetum moesiacaе*, 750 m, 130
- T. praecox* Wulfen - H scap semiros - CEM - (9) roadsides, 560 m, 8; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 196

#### DIPSACACEAE

- Dipsacus laciniatus* L. - H bienn - Pont-S-Sib-Sub-Med - (9) ruderal place, 600 m, 1653
- Knautia arvensis* (L.) Coulter - H scap bienn - EA (T-SM) - (6, 14) meadow, 750 m (*obs.*)
- K. drymeia* Heuffel - H scap bienn - Sub-Med - (1, 10) meadow, 800 m, 1402; (12) *Quercetum farnetto-cerris*, 700 m, 819; (19) *Fagetum moesiacaе*, by a stream, 750 m, 360; (16, 27) *Quercetum farnetto-cerris*, by a stream, 600 m, 672
- Scabiosa columbaria* L. - H scap - CE-Pont-S-Sib - (10) rocks, 930 m, 1484; (17) meadow, 700 m, 1494; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 750 m, 894; (16, 27) rocky places, 600 m, 720
- \**S. fumarioides* Vis. & Pančić - H scap - END - (1) *Diantho-Armerietum rumelicae*, fields, 800 m, 1732; (16, 27) meadow, rocky places, 600 m, 882
- S. ochroleuca* L. - H scap - Pont-S-Sib - (10) rocks, 930 m, 1465; (6, 14) meadow, 750 m, 1671; (17) meadow, 700 m, 1574; (20) Ružić & Ranđelović (1983)

## EUPHORBIACEAE

- Euphorbia amygdaloides* L. - H scap - CE - (1, 19) *Fagetum moesiacaе*, 800 m, 215; (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 512
- E. cyparissias* L. - H scap - CE-Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 550 m, 1060; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1258; (12, 23) *Fagetum moesiacaе*, 750 m, 109
- E. epithymoides* L. - G rhiz - Sub-Med-Pont-S-Sib - (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 513
- E. helioscopia* L. - T scap - Sub-Med-CE - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 73
- E. platyphyllos* L. - T scap - CE-Sub-Med - (25) *Quercetum farnetto-cerris*, 500 m, 1627
- E. seguierana* Necker - G rad caesp - EA (Pont-S-Sib) - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 494
- E. serrulata* Thuill. - T scap/H scap bienn - Sub-Med-Pont-S-Sib - (16, 27) *Quercetum farnetto-cerris*, 600 m, 746
- E. virgata* Waldst. & Kit. - H scap - Pont-S-Sib - (4, 26) meadow, 700 m, 1715
- Mercurialis perennis* L. - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 936 m, 1107; (22, 24) *Fagetum moesiacaе*, 900 m, 1759

## FAGACEAE

- Fagus sylvatica* L. - P scap - CE - (13) *Fagetum moesiacaе*, 700 m, 1001; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1252
- Quercus cerris* L. - P scap - Sub-Med - (5) *Quercus-Carpinetum orientalis*, rocky places, 500 m, 1784
- Q. frainetto* Ten. - P scap - Sub-Med - (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 492; (25) *Quercetum farnetto-cerris*, 500 m, 1618
- Q. petraea* (Mattuschka) Liebl. - P scap - CE - (6, 14) *Quercus-Carpinetum*, 800 m, 1660; (24) *Corylo colurnae-Fagetum*, 900 m, 1755
- Q. pubescens* Willd. - P scap - Sub-Med - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 363; (8, 20) *Quercus-Carpinetum orientalis*, 450 m, 350

## GENTIANACEAE

- Centaurium erythraea* Rafn - H bienn/T scap - Sub-Med-CE - Randelović & al. (1989); (10) rocks, 930 m, 1474; (20) by a stream, 550 m, 1049
- Gentiana cruciata* L. - G rad - EA (T-SM) - (10) *Fagetum moesiacaе*, rocks, 930 m, 1471
- G. utriculosa* L. - H ros - CEM - (1, 10) meadow, 800 m, 1426

## GERANIACEAE

- Erodium cicutarium* (L.) L'Hér. - T scap semiros - Hol (SM-M) - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 234; 1073
- Geranium brutium* Gasparr. - T scap/H scap bienn - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 162
- G. columbinum* L. - T scap - Sub-Med-CE - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 1070

- G. divaricatum* Ehrh. - T scap - EA (Sub-Med-Pont-S-Sib) - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1264
- G. lucidum* L. - T scap - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 532; (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 407
- G. molle* L. - T scap/H scap bienn - Sub-Med - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 896
- G. phaenum* L. - G rhiz/H scap - M(S)EM - (1, 12) *Fagetum moesiacaе*, 800 m, 874; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1204
- G. pusillum* L. - T scap/H scap bienn - Sub-Med-CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 406
- G. pyrenaicum* Burm. fil. - H scap - Sub-Med - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1263; *Fagetum moesiacaе*, rocks, 950 m, 1773
- G. robertianum* L. - T scap/H scap bienn - Hol (B-T) - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 405; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1214
- G. rotundifolium* L. - T scap - Sub-Med - (20) *Quercu-Carpinetum orientalis*, 450 m, 1333
- G. sanguineum* L. - H rept - Pont-S-Sib-CE - (1, 12) *Quercetum farnetto-cerris*, 750 m, 858; (17) meadow, 700 m, 1509
- G. sylvaticum* L. - G rhiz - Bor-CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 472; (16, 27) *Quercetum farnetto-cerris*, 600 m, 736

## GUTTIFERAE

- \**Hypericum annulatum* Moris - H scap - END - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 1079
- H. barbatum* Jacq. - H scap - Sub-Med - (10) rocks, 930 m, 1456
- H. hirsutum* L. - H scap - EA (SB-M) - (6, 14) rocks, 800 m, 1706; (18) *Fagetum moesiacaе*, roadsides, 1050 m, 1175
- H. maculatum* Crantz - H scap - CE - (17) meadow, 700 m, 1507
- H. perforatum* L. - H scap - EA (SB-T) - Randelović & al. (1989); (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 764
- \**H. rumeliacum* Boiss. - H scap - END - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 300; 1312

## LABIATAE

- Acinos hungaricus* (Simonkai) Šilic - Ch suffr rept - Sub-Med-Pont-S-Sib - (10) rocks, 930 m, 1467; (1, 19) rocky places, 650 m, 396; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 298; 1291; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1637; (16, 27) meadow, 600 m, 791
- Ajuga genevensis* L. - H semiros - CE - Randelović & al. (1989); (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 412; (20) Ružić & Randelović (1983); 304
- A. reptans* L. - H rept - EA (T) - Randelović & al. (1989); (1, 12) meadow, 750 m, 888
- Ballota nigra* L. - H scap - Sub-Med-Pont-S-Sib - (16) ruderal place, 600 m, 1584
- Calamintha nepeta* subsp. *glandulosa* (Req.) P. W. Ball - H scap/ Ch suffr caesp - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1059

- C. sylvatica* Bromf. - H scap - Sub-Med - (5) *Quercus-Carpinetum orientalis*, rocky places, 500 m, 1786; (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 1045
- C. vulgaris* (L.) Halacsy - H scap - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (17) meadow, 700 m, 1514; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1320
- Glechoma hirsuta* Waldst. & Kit. - H rept - CE-Pont-S-Sib - Randelović & al. (1989); (1, 19) *Fagetum moesiacaе*, 800 m, 1090; (12, 23) *Fagetum moesiacaе*, 750 m, 127
- Lamium amplexicaule* L. - T scap - EA (T-SM) - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 71
- L. bifidum* Cyr. - T scap - Sub-Med - (20) rocky places, Nikolic *et al.* (1986)
- L. galeobdolon* (L.) L. - H scap - CE - (1, 19) *Fagetum moesiacaе*, 750 m, 424
- L. garganicum* subsp. *laevigatum* Arcangeli - H scap - Sub-Med - (10) *Fagetum moesiacaе*, rocks, 936 m, 1106; (1, 19) *Fagetum moesiacaе*, 750 m, 425; (22) *Fagetum moesiacaе*, rocks, 950 m, 1770
- L. hybridum* Vill. - T scap - Sub-Med-CE - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 410
- L. maculatum* L. - H scap - Sub-Med-CE - (1, 19) *Fagetum moesiacaе*, 800 m, 218
- L. purpureum* L. - T scap - CE-Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 41; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 165
- Leonurus cardiaca* L. - H scap - EA (T-SM) - (6, 14) meadow, 750 m (*obs.*)
- Lycopus europaeus* L. - H scap/Hyd G rhiz emer - EA (SB-M) - (20) ruderal place, 550 m, 1055
- Melissa officinalis* L. - H scap - Sub-Med - Randelović & al. (1989)
- Melittis melissophyllum* L. - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1365; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 428
- Mentha longifolia* (L.) Hudson - H scap - EA (Sub-Med-Pont-S-Sib) - (13, 22) by a stream, 550 m, 959
- M. pulegium* L. - H scap - Sub-Med-CE - (10) rocks, 930 m, 1475; (22) wet meadows, 950 m, 1012
- M. spicata* L. - H scap - Sub-Med - (16) ruderal place, 600 m, 1581; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1647
- Nepeta nuda* L. - H scap - Pont-S-Sib - (1, 10) meadow, 800 m, 1411; (12) roadsides, 800 m, 931
- Origanum vulgare* L. - H scap - EA (T-SM) - Randelović & al. (1989)
- Prunella laciniata* (L.) L. - H scap - Sub-Med - (17) meadow, 700 m, 1573; (20) Ružic & Randelović (1983)
- P. vulgaris* L. - H scap semiros - Hol (B-M) - (17) meadow, 850 m, 918; (16, 27) meadow, 600 m, 689
- Salvia glutinosa* L. - H scap - CE - (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1259
- S. nemorosa* L. - H scap - EA (Pont-S-Sib) - (9) *Inulo-Danthonietum calycinae*, 600 m, 1344; (17) meadow, 700 m, 1550; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 705
- S. pratensis* L. - H scap - Pont-S-Sib-CE - (17) meadow, 850 m, 856; (20) Ružic & Randelović (1983)
- S. verticillata* L. - H scap - Pont-S-Sib - (17) meadow, 700 m, 1502; (16, 27) meadow, 600 m, 762

- S. viridis* L. - T scap/H scap bienn - Sub-Med - (20) Ružic & Randelović (1983)  
*Scutellaria columnae* All. - H scap - Sub-Med - (16, 27) meadow, 600 m, 707  
*Sideritis montana* L. - T scap - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 308; (16, 27) meadow, 600 m, 712  
 \**Stachys cretica* subsp. *cassia* (Boiss.) Rech. fil. - H scap - END - (6, 14) meadow, 750 m, 1670; (1, 19) rocky places, 700 m, 919  
*S. germanica* L. - H scap - Sub - Med - (17) meadow, 700 m, 1495; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 783; 713  
*S. officinalis* (L.) Trevisan - H scap - Pont-S-Sib-CE - Randelović & al. (1989); (6, 14) rocks, 800 m, 1711; (17) meadow, 700 m, 1497  
*S. recta* L. - H scap - Pont-S-Sib-Sub-Med - (10) rocks, 930 m, 1457; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 302; (26) roadsides, 500 m, 554  
 \**S. scardica* (Griseb.) Hayek - H scap - END - (17) meadow, 700 m, 1552; (20) Ružic & Randelović (1983); 1283; (16, 27) meadow, 600 m, 766  
*S. sylvatica* L. - H scap - CE - (1, 12) *Fagetum moesiacaе*, 800-850 m, 879; 1738  
*Teucrium chamaedrys* L. - Ch suffr rept - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 660; 740  
*T. polium* L. - Ch suffr caesp - Sub-Med - Randelović & al. (1989)  
*Thymus glabrescens* Willd. - Ch suffr rept - Pont-S-Sib - Randelović & al. (1989); (20) Ružic & Randelović (1983)  
*T. longicaulis* C. Presl - Ch suffr rept - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 287; 1270; (16, 27) rocky places, 600 m, 687  
*T. praecox* Opiz - Ch suffr rept - (M)SEM - (1, 19) rocky places, 650 m, 213; 400; (16, 27) rocky places, 650 m, 451  
*T. pulegioides* subsp. *montanus* (Benth) Ronniger - Ch suffr rept - CE-Sub-Med - Randelović & al. (1989); (10) rocks, 930 m, 1455; (13, 22) *Fagetum moesiacaе*, 850 m, 973; (26) roadsides, 750 m, 833; (17) meadow, 700 m, 1558; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1266

#### LEGUMINOSAE

- Anthyllis vulneraria* L. - H scap caesp - CE-Sub-Med - (20) Ružic & Randelović (1983)  
*Astragalus glycyphyllos* L. - H scap rept - EA (T) - (6, 14) *Quercu-Carpinetum*, 800 m, 1663; (16, 27) *Quercetum farnetto-cerris*, 600 m, 677  
*A. onobrychis* L. - Ch suffr rept - Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 303; 1284  
*Chamaecytisus albus* (Hacq.) Rothm. - Ch suffr caesp - Pont-S-Sib - (10) rocks, 930 m, 1450; (17) meadow, 700 m, 1530  
*C. heuffelii* (Wierzb.) Rothm. - Ch frut caesp - Pont-S-Sib - (10) rocks, 900-930 m, 1121; 1397; (6, 14) *Quercu-Carpinetum*, 800 m, 1664  
*C. hirsutus* (L.) Link - Ch frut caesp - Sub-Med-Pont-S-Sib - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650-700 m, 229; 431; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 511  
*Chamaespartium sagittale* (L.) P. Gibbs - Ch suffr caesp - CE - (1, 10) meadow, 800 m, 1416; (20) Ružic & Randelović (1983); (7, 26) rocky places roadsides, 750 m, 848  
*Coronilla varia* L. - H scap - Sub-Med-Pont-S-Sib - (17) meadow, 700 m, 1493

- Dorycnium herbaceum* Vill. - Ch suffr caesp - Sub-Med-Pont-S-Sib - (17) meadow, 850 m, 850; (20) Ružić & Randelović (1983)
- Galega officinalis* L. - H scap - Pont-S-Sib-Sub-Med - (16, 27) ruderal place, 650 m, 1723
- Genista lydia* Boiss. - Ch frut caesp - Sub-Med - (10) rocks, 930 m, 1394; 1438; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 195
- \**G. subcapitata* Pančić - Ch frut caesp - END - (10) rocks, 930 m, 1396
- G. sylvestris* Scop. - Ch suffr caesp - Sub-Med - (6, 14) meadow, 750 m, 1674
- G. tinctoria* subsp. *ovata* (Waldst. & Kit.) Arcangeli - Ch suffr caesp - Pont-S-Sib - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 413; (20) Ružić & Randelović (1983); (7, 26) rocky places roadsides, 750 m, 883; (16, 27) meadow, 600 m, 664
- Lathyrus aphaca* L. - ST herb/T scap - Sub-Med - (16, 27) meadow, 600 m, 786
- L. hallersteinii* Baumg. - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1363; (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 393
- L. inconspicuus* L. - T scap - Sub-Med - (9) roadsides, 500 m, 1142; (17) meadow, 850 m, 915
- L. latifolius* L. - ST herb/H rept - Sub-Med-CE - (17) meadow, 700 m, 1513; (20) Ružić & Randelović (1983)
- L. laxiflorus* (Desf.) O. Kuntze - H scap - Sub-Med-Pont-S-Sib - (16, 27) ruderal place, 600 m, 475; *Quercetum farnetto-cerris*, 600 m, 661
- L. niger* (L.) Bernh. - H scap - CE - (16, 27) meadow, ruderal place, 600 m, 474; 782
- L. nissolia* L. - T scap - Sub-Med - (10) rocks, 930 m, 1395; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 330; (26) meadow, rocky places, 500 m, 552
- L. pratensis* L. - H scap - EA (SB-M) - (1, 10) meadow, 800 m, 1406; (17) meadow, 700 m, 1537; (20) Ružić & Randelović (1983)
- L. sativus* L. - T scap - Adv - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 343
- L. sphaericus* Retz. - T scap - Sub-Med - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 393
- L. tuberosus* L. - G tub rept - EA (Pont-S-Sib) - (16) ruderal place, 600 m, 1589; (27) meadow, 600 m, 754
- L. venetus* (Miller) Wohlf. - H scap - CE - (8, 20) *Quercus-Carpinetum orientalis*, 550 m, 517; (22, 24) *Fagetum moesiacaе*, 900 m, 1765
- L. vernus* (L.) Bernh. - H scap - EA (T) - (18) *Fagetum moesiacaе*, 1050 m, 1172; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 201
- Lembotropis nigricans* (L.) Griseb. - P caesp - Pont-S-Sib-CE - (20) *Quercus-Carpinetum orientalis*, 450 m, 1334
- Lotus corniculatus* L. - H scap - Sub-Med-CE - (17) meadow, 700 m, 1496; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1296; (16, 27) meadow, 600 m, 708
- Medicago falcata* L. - H scap - Pont-S-Sib-Sub-Med - (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 320; (16, 27) meadow, 600 m, 749
- M. lupulina* L. - T scap/H scap - EA (T-M) - (20, 25) meadow, 500 m (obs.)
- M. minima* (L.) Bartal. - T scap - Sub-Med-Pont-S-Sib - (1, 19) rocky places, 700 m, 362; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 313
- M. rigidula* (L.) All. - T scap - Sub-Med - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 237; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 315

- M. alba* Medicus - T scap/H scap bienn - Sub-Cosm - (16) ruderal place, 600 m, 1583
- Melilotus officinalis* (L.) Lam. - H scap bienn - Sub-Med-Pont-S-Sib - (17) meadow, 850 m, 922; (16, 27) meadow, 600 m, 775
- Onobrychis alba* (Waldst. & Kit.) Desv. - H scap - Sub-Med - (9) roadsides, 500 m, 1150; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 319
- O. arenaria* Grec. - H scap - EA (Pont-S-Sib) - (20) Ružić & Randelović (1983); (25) meadow, 500 m, 1604
- Ononis spinosa* L. - Ch suffr caesp - Sub-Med - (20) Ružić & Randelović (1983); (4, 26) meadow, 700 m (*obs.*)
- Robinia pseudoacacia* L. - P scap - Adv - (8, 20) roadsides, 550 m, 489
- Securigera elegans* (Pančić) Lassen - H scap - Pont-S-Sib - (22, 24) *Fagetum moesiaca*e, 900 m, 1760
- Trifolium alpestre* L. - H scap - Pont-S-Sib-CE - (1, 12) meadow, 700 m, 830; (20) Ružić & Randelović (1983)
- T. angustifolium* L. - T scap - Sub-Med - (1) *Diantho-Armerietum rumelicae*, fields, 750 m, 806
- T. arvense* L. - T scap/H scap bienn - Sub-Med-CE - (13, 22) meadow, 650 m, 1014; (17) meadow, 700 m, 1517; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1292; (16, 27) meadow, rocky places, 600 m, 753
- T. aureum* Pollich - T scap - CE - (10) rocks, 930 m, 1451; (17) meadow, 700 m, 1531
- T. campestre* Schreber in Sturm - T scap - Sub-Med-Pont-S-Sib - (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 314; (16, 27) meadow, 600 m, 755
- T. hirtum* All. - T scap - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1286; (16, 27) meadow, 600 m, 758
- T. hybridum* subsp. *elegans* (Savi) Ascherson & Graebner - H scap - Pont-S-Sib-CE - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 331
- T. incarnatum* L. - T scap - Sub-Med - (1, 19) rocky places, 700 m, 374; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 316
- T. leucanthum* Bieb. - T scap - Sub-Med - (20) rocky places, Nikolic *et al.* (1986)
- \**T. medium* subsp. *balkanicum* Velen. - H scap - END - (1, 12) meadow, 700 m, 827; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1635
- T. montanum* L. - H scap - Pont-S-Sib-CE - (1, 10) meadow, 800 m, 1403; (17) meadow, 700 m, 1508; (20) Ružić & Randelović (1983)
- T. pallidum* Waldst. & Kit. - T scap/H scap bienn - Sub-Med - (1, 12) meadow, 750 m, 854; (17) meadow, 850 m, 913; (16, 27) meadow, 600 m, 656
- T. pannonicum* Jacq. - H scap - Pont-S-Sib - (1, 10) meadow, 800 m, 1412; (17) meadow, 700 m, 1511
- T. patens* Schreber - T rept - Sub-Med-CE - (20) Ružić & Randelović (1983)
- \**T. pignanii* Fauche & Chaub. - G rhiz - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 318; 1309
- T. pratense* L. - H scap - Pont-S-Sib-Sub-Med - (1, 12) meadow, 700 m, 826; (13, 22) *Fagetum moesiaca*e, 750 m, 978; (20) Ružić & Randelović (1983)
- T. repens* L. - H rept - Hol (B-T) - (17) meadow, 700 m, 1521; (20) Ružić & Randelović (1983); (16, 27) by a stream, 650 m, 1720

- T. striatum* L. - T scap/H scap bienn - Sub-Med - (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 756
- T. strictum* L. - T scap - Sub-Med - (20) Ružic & Randelović (1983)
- \**T. trichopterum* Pančić - T scap - END - (20) rocky places, Nikolic *et al.* (1986)
- \**T. velenovskyi* Vandas - H scap bienn - END - (20) Ružic & Randelović (1983)
- Vicia cassubica* L. - H scap/G rhiz - CE-Sub-Med - (16, 27) meadow, 600 m, 659
- V. cracca* L. - SH herb/H scap - EA (B-M) - (1, 10) meadow, 800 m, 1422; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 718; 748
- V. grandiflora* Scop. - ST herb/T scap - Pont-S-Sib-Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 317; 1267
- V. hirsuta* (L.) S. F. Gray - ST herb/T scap - Sub-Med-Pont-S-Sib - (1, 19) rocky places, 700 m, 391; 404; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 186
- V. lathyroides* L. - ST herb/T scap - Sub-Med - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 404; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 185; (26) rocky places roadsides, 600 m, 55
- V. lutea* L. - T scap - Sub-Med - (16, 27) ruderal place, 600 m, 477
- V. pannonica* Crantz - ST herb/T scap - Pont-S-Sib-Sub-Med - (17) meadow, 700 m, 1536; (16, 27) *Quercetum farnetto-cerris*, 600 m, 743
- V. sativa* L. subsp. *sativa* - ST herb/T scap - Sub-Cosm - (1, 10) meadow, 800 m, 1405; (19) *Fagetum moesiacaе*, 750 m, 438; (26) meadow, rocky places, 500 m, 534
- V. sativa* subsp. *nigra* (L.) Ehrh. - ST herb/T scap - EA - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 404; (20) Ružic & Randelović (1983)
- V. tetrasperma* (L.) Schreber - ST herb - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1281; (16, 27) meadow, 600 m, 697
- V. villosa* Roth - ST herb/T scap - Sub-Med - (20) Ružic & Randelović (1983)

#### LINACEAE

- Linum bienne* Miller - H scap - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 289
- L. catharticum* L. - T scap - CE - (17) meadow, 700 m, 1532; (14, 25) meadow, 700 m, 1683
- L. hologynum* Reichenb. - H caesp - Sub-Med - (20) Ružic & Randelović (1983)
- L. tauricum* Willd. - H ros - Pont-S-Sib - (20) Ružic & Randelović (1983)

#### LORANTHACEAE

- Loranthus europaeus* Jacq. - ParCh - CE-Sub-Med - (1, 10) *Fagetum moesiacaе*, 850 m (*obs.*)

#### LYTHRACEAE

- Lythrum portula* (L.) D. A. Webb - T rept - Sub-Med - (6, 14) *Quercus-Carpinetum*, 800 m, 1665
- Lythrum salicaria* L. - H scap - EA (B-T) - (25) *Quercetum farnetto-cerris*, 500 m, 1620; (16, 27) by a stream, 650 m, 1719

#### MALVACEAE

- Alcea pallida* (Willd.) Waldst. & Kit. - H scap bienn - Sub-Med-Pont-S-Sib - (20) ruderal place, 550 m, 1051



*Malva sylvestris* L. - H scap bienn - Sub-Med-CE - (26) roadsides, 500 m, 543; (16, 27) meadow, 600 m, 738

#### OLEACEAE

*Fraxinus excelsior* L. - P scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1373

*F. ornus* L. - P scap - Sub-Med - (13, 22) *Fagetum moesiacaе*, 800 m, 1011; (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 290

*Ligustrum vulgare* L. - P caesp - CE-Sub-Med - Randelović & al. (1989); (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 333; (16, 27) meadow, 600 m, 666; 716

#### ONAGRACEAE

*Circaea lutetiana* L. - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1488; (20) by a stream, 550 m, 1048

*Epilobium angustifolium* L. - H scap - Hol (A-T) - (17) meadow, 700 m, 1561

*E. hirsutum* L. - H scap - Sub-Cosm - (20) by a stream, 550 m, 1057

*E. lanceolatum* Sebastiani & Mauri - H scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1463; (6, 14) *Quercu-Carpinetum*, 800 m, 1666

*E. montanum* L. - H scap - EA (T) - (1, 12) roadsides, 800 m, 831; (13, 22) *Fagetum moesiacaе*, 850 m, 967

*E. roseum* Schreber - H scap - CE-Pont-S-Sib - (20) by a stream, 550 m, 1058

*Oenothera biennis* L. - H scap bienn - Adv - (16) ruderal place, 600 m (*obs.*)

#### OROBANCHACEAE

*Orobanche alba* Stephan ex Willd. - ParG - Sub-Med-Pont-S-Sib - (9) *Inulo-Danthonietum calycinae*, 600 m, 1352; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1643

*O. caryophyllacea* Sm. - ParG - CE-Pont-S-Sib - (10) rocks, 930 m, 1383

*O. gracilis* Sm. - ParG - Sub-Med-Pont-S-Sib - (6, 14) meadow, 750 m, 1673

*O. ramosa* subsp. *mutelii* (F. W. Schultz) Coutinho - ParT - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1318

*O. teucrii* Holandre - ParG - Sub-Med-Pont-S-Sib - (1, 10) meadow, 800 m, 1424

#### OXALIDACEAE

*Oxalis acetosella* L. - G rhiz - Hol (B-T) - (1, 19) *Fagetum moesiacaе*, 800 m (*obs.*)

#### PAPAVERACEAE

*Chelidonium majus* L. - H semiros - EA (T-SM) - (24) *Corylo colurnae-Fagetum*, 990 m, 1193

*Corydalis bulbosa* (L.) DC. - G tub - CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1087

*C. solida* (L.) Swartz - G tub - CE - (9) roadsides, 560 m, 5; (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1088

*Fumaria officinalis* L. - T scap - Sub-Med-CE - Randelović & al. (1989); (1, 19) rocky places, 650 m, 210

*Papaver dubium* L. - T scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 197; 349

*P. rhoeas* L. - g T scap - Sub-Med-Pont-S-Sib - (11, 16) ruderal place, 600 m, 1140

PLANTAGINACEAE

*Plantago altissima* L. - H ros - Pont-S-Sib - (17) meadow, 700 m, 1564

*P. atrata* Hoppe - H ros - M(S)EM - (10) rocks, 930 m, 1392

*P. holosteam* Scop. - H ros - Sub-Med - (20) Ružic & Randelović (1983)

*P. lanceolata* L. - H ros - EA (B-M) - (20) Ružic & Randelović (1983)

*P. media* L. - H ros - EA (T-SM) - (17) meadow, 700 m, 1538; (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1288; (16, 27) meadow, 600 m, 662

PLUMBAGINACEAE

\**Armeria rumelica* Boiss. - H ros - END - (1) *Diantho-Armerietum rumelicae*, fields, 750 m, 867

POLYGALACEAE

*Polygala comosa* Schkuhr - H caesp - Pont-S-Sib-CE - (1, 10) meadow, 800 m, 1417; (17) meadow, 900 m, 817; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 752

POLYGONACEAE

*Bilderdykia convolvulus* (L.) Dumort. - SH herb/T scap - Sub-Cosm - (5, 25) roadsides, 450 m (obs.)

*B. dumetorum* (L.) Dumort. - SH herb/T scap - EA (Pont-S-Sib-Sub-Med) - (13, 22) *Fagetum moesiacaе*, 700 m, 960

*Persicaria hydropiper* (L.) Opiz - T scap - EA (T-TR) - (20) by a stream, 550 m, 1047; (22) wet meadows, 950 m, 984

*Polygonum arenarium* subsp. *pulchelum* (Loisel.) D. A. Webb & Chater - T rept - Pont-S-Sib-Sub-Med - (5, 25) roadsides, 450 m, 1778

*Polygonum aviculare* L. - T rept - Cosm - (16) ruderal place, 600 m, 1590

*Rumex acetosa* L. - H scap - Hol (B-T) - (1, 10) meadow, 800 m, 1398; (20) Ružic & Randelović (1983)

*R. acetosella* L. - H scap - Hol (B-T) - (10) rocks, 930 m, 1382; (17) meadow, 700 m, 1539; (1, 19) rocky places, 700 m, 902; (20) Ružic & Randelović (1983)

*R. conglomeratus* Murray - H scap - Sub-Med-CE - (25) *Quercetum farnetto-cerris*, 500 m, 1626

*R. crispus* L. - H scap - EA (SB-M) - (20) Ružic & Randelović (1983); (16, 27) ruderal place, 650 m, 436

*R. kernerii* Borbas - H scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1316

*R. obtusifolius* L. - H scap - CE - (1, 12) *Fagetum moesiacaе*, 850 m, 1744; (16, 27) rocky places, 650 m, 454

*R. pulcher* L. - H scap/T scap - Sub-Med - (9) *Quercetum farnetto-cerris*, wet place, 600 m (obs.)

*R. sanguineus* L. - H scap - CE - (10) rocks, 930 m, 1440; (20) *Quercu-Carpinetum orientalis*, 450 m, 1331

## PORTULACACEAE

*Montia fontana* L. - HydT rad nat - Hol (B-T) - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 650 m, 462; (21) roadsides, 750 m, 11

## PRIMULACEAE

*Anagallis arvensis* L. - T rept - Cosm - (17) meadow, 700 m, 1520; (1, 19) rocky places, 700 m, 889

*Androsace elongata* L. - T ros - Pont-S-Sib-Sub-Med - (8) *Festuco-Chrysopogonetum grylli*, 450 m, 170

*Cyclamen hederifolium* Aiton - G tub - Sub-Med - (13, 22) *Fagetum moesiacaе*, 800 m, 971

*Lysimachia nummularia* L. - Ch herb rept - CE - (20) by a stream, 550 m, 1050

*L. punctata* L. - H scap - Sub-Med-Pont-S-Sib - (10) *Fagetum moesiacaе*, rocks, 930 m, 1491

*Primula acaulis* (L.) L. - H ros - Sub-Med - Randelović & al. (1989); (9) roadsides, 560 m, 1; (12, 23) *Fagetum moesiacaе*, 750 m, 133

*P. veris* subsp. *canescens* (Opiz) Ludi - H ros - M(S)EM - (21) roadsides, 850 m, 12; (23) meadow, 650 m, 155

## RANUNCULACEAE

*Anemone nemorosa* L. - G rhiz - CE - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 1075; (23) meadow, 650 m, 148

*A. ranunculoides* L. - G rhiz - CE - (2, 10) *Fagetum moesiacaе*, 800 m, 1130; (23) meadow, 650 m, 149

*Clematis vitalba* L. - S lig - CE-Sub-Med - (20) ruderal place, 550 m, 1053; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1253

*Consolida regalis* S. F. Gray - T scap - Pont-S-Sib-Sub-Med - (9) ruderal place, 700 m, 1679

*Delphinium fissum* Waldst. & Kit. - G tub - Sub-Med-Pont-S-Sib - (10) rocks, 900-930 m, 1127; 1460

*Helleborus odorus* Waldst. & Kit. - G rhiz - CE - Randelović & al. (1989); (21) roadsides, 850 m, 13

*Isopyrum thalictroides* L. - G rhiz - CE - (1, 19) *Fagetum moesiacaе*, 800 m, 216

*Pulsatilla montana* subsp. *balkana* (Velen.) Zamels & Paegle - H scap semiros - Pont-S-Sib-Sub-Med - (1) *Diantho-Armerietum rumelicaе*, fields, 850 m, 1071

*Ranunculus acris* L. - H scap semiros - EA (B-T) - (1, 10) meadow, 800 m, 1399

*R. bulbosus* L. - H scap - CE - (20) Ružic & Randelović (1983)

*R. ficaria* L. subsp. *ficaria* - G tub - CE-Sub-Med - (2, 10) *Fagetum moesiacaе*, 800 m (obs.)

*R. ficaria* subsp. *bulbifer* Lawaree - G bulb - Sub-Med-CE - (15, 21) rocks, 600 m, 9; (12, 23) *Fagetum moesiacaе*, 750 m, 124

*R. illyricus* L. - H scap/G tub - Pont-S-Sib - (1, 19) rocky places, 750 m, 205

*R. millefoliatus* Vahl. - H scap/G tub - Sub-Med - (1, 19) rocky places, 650 m, 223

*R. neapolitanus* Ten. - H scap semiros - Sub-Med - (20) Ružic & Randelović (1983)

- R. polyanthemos* L. - H scap semiros - EA (T-M) - (1, 12) roadsides, 800-850 m, 829; 868; (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 523
- \**R. psilostachys* Griseb. - H scap/G tub - END - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 36; (1, 19) rocky places, 700 m, 355
- R. sardous* Crantz - T scap - CE-Sub-Med - (1, 10) meadow, 800 m, 1404; (12) *Fagetum moesiacaе*, 750 m, 816; (19) *Fagetum moesiacaе*, 800 m, 455
- R. serbicus* Vis. - H scap/G rhiz - CE - (1, 12) *Fagetum moesiacaе*, 700-850 m, 822; 876
- R. velutinus* Ten. - H scap - Sub-Med - (1, 19) *Fagetum moesiacaе*, 700-800 m, 455; 356; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1301
- Thalictrum flavum* L. - H scap - EA (B-T) - (17) meadow, 700 m, 1524
- T. lucidum* L. - H scap - EA (B-T) - (16, 27) by a stream, 650 m, 1717
- T. minus* L. - H scap - EA (B-M) - (1, 12) *Fagetum moesiacaе*, 750 m, 866

#### RESEDACEAE

- Reseda lutea* L. - H scap/T scap - Sub-Med-CE - (16) ruderal place, 600 m (*obs.*)

#### RHAMNACEAE

- Paliurus spina-christi* Miller - P caesp - Sub-Med - Randelović & al. (1989)
- Rhamnus catharticus* L. - P caesp/P scap - EA (T-SM) - (6, 14) rocks, 800 m, 1702

#### ROSACEAE

- Agrimonia eupatoria* L. - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989)
- Aremonia agrimonioides* (L.) DC. - H ros - CE - (1) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1158; (22, 24) *Fagetum moesiacaе*, roadsides, 950 m (*obs.*)
- Crataegus monogyna* Jacq. - P caesp/P scap - Pont-S-Sib-CE - Randelović & al. (1989); (10) rocks, 930 m, 1453; (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1220; (25) *Quercetum farnetto-cerris*, 500 m, 1611
- C. pentagyna* Waldst. & Kit. ex Willd. - P caesp/P scap - Pont-S-Sib - (9) *Inulo-Danthonietum calycinae*, 600 m, 1354; (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1218
- Filipendula vulgaris* Moench - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (17) meadow, 700 m, 1503; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1275
- Fragaria moschata* Duchesne - H rept - CE - (6, 14) *Quercu-Carpinetum*, 750 m, 1701; (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1212
- F. vesca* L. - H rept - EA (B-SM) - (20) Ružić & Randelović (1983)
- F. viridis* Duchesne - H rept - EA (Pont-S-Sib) - (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 336
- Geum urbanum* L. - H scap - EA (SB-M) - (8, 20) *Quercu-Carpinetum orientalis*, 550 m, 487
- Malus domestica* Borkh. - P scap - Cult - (18) *Fagetum moesiacaе*, roadsides, 1050 m, 1165
- ×*Malosorbus florentina* (Zuccagni) Browicz - P caesp/P scap - Sub-Med - (12) *Quercetum farnetto-cerris*, 700 m, (*obs.*); (25) *Quercetum farnetto-cerris*, 500 m, 1619

- Potentilla acaulis* subsp. *arenaria* (Borkh.) Soyak - H rept - Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 193
- P. acaulis* subsp. *tommasiniana* (F. W. Schultz) Soyak - H rept - Pont-S-Sib - (20) rocky places, Nikolic *et al.* (1986)
- P. argentea* L. - H scap - Pont-S-Sib-CE - (1, 19) rocky places, 650 m, 357; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450-500 m, 1322; 1797
- P. chrysantha* Trev. - H scap - (10) rocks, 900 m, 1122
- P. micrantha* Ramond ex DC. - H scap - Sub-Med - (9) roadsides, 560 m, 2
- P. recta* L. subsp. *recta* - H scap - Pont-S-Sib-Sub-Med - (17) meadow, 700 m, 1501; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1323; (10) rocks, 930 m, 1470
- \**P. recta* subsp. *laciniosa* (Waldst. & Kit. ex Nestler) Nyman - H scap - END - (1) *Diantho-Armerietum rumelicae*, rocky places, 750 m, 921
- P. reptans* L. - H rept - EA - (1, 12) *Fagetum moesiacaе*, 850 m, 1740
- Prunus avium* L. - P scap - CE - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1289; (22, 24) *Fagetum moesiacaе*, roadsides, 950 m, 1202
- P. domestica* L. - P caesp/Mi-Mes P scap - Cult - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 335
- P. spinosa* L. - P caesp - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1223
- P. tenella* Batsch - P caesp - Pont-S-Sib - (1) *Quercu-Carpinetum orientalis*, rocky places, 800 m, 1729
- Pyrus amygdaliformis* Vill. - P caesp/Mi P scap - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 305
- P. pyrastrer* Burgsd. - P scap - CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 373; (22, 24) *Fagetum moesiacaе*, roadsides, 950 m, 1216
- Rosa arvensis* Hudson - P rept - CE - (14, 25) *Quercetum farnetto-cerris*, 750 m, 1655
- R. canina* L. s. l. - P caesp - CE-Sub-Med - Randelović & al. (1989); (10) rocks, 930 m, 1375; (13, 22) *Fagetum moesiacaе*, 750 m, 999; (20) *Quercu-Carpinetum orientalis*, 450 m, 1330; (8) *Festuco-Chrysopogonetum grylli*, 550 m, 1027; (14, 25) *Quercetum farnetto-cerris*, 500-650 m, 1628; 1642
- R. gallica* L. - P caesp rept - CE-Sub-Med - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 464; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1272; (16, 27) meadow, 600 m, 676
- R. pendulina* L. - P caesp - CEM - (16, 27) *Quercetum farnetto-cerris*, 600-650 m, 703; 886; (24) *Corylo columnae-Fagetum*, 900 m, 1758
- R. pimpinellifolia* L. - P caesp - EA (T) - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1103
- Rubus candicans* Weihe - P rept - CE - (13, 22) *Fagetum moesiacaе*, 750 m, 963; (25) *Quercetum farnetto-cerris*, 500 m, 1624
- R. discolor* Weihe & Ness - P rept - Sub-Med-CE - (1, 12) *Fagetum moesiacaе*, 850 m, 1741; (20) ruderal place, 550 m, 1046; (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1328; (25) *Quercetum farnetto-cerris*, 500 m, 1623
- R. hirtus* Waldst. & Kit - P rept - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1486; (22) *Corylo columnae-Fagetum*, rocks, 950-1017 m, 1208; 1776

- Sanguisorba minor* Scop. - H ros - Sub-Med-Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1278
- Sorbus aucuparia* L. - P scap - Bor-CE - (25) *Quercetum farnetto-cerris*, 500 m, 1601
- S. domestica* L. - P scap - Sub-Med - (8, 20) *Quercu-Carpinetum orientalis*, 500 m, 1793
- S. torminalis* (L.) Crantz - P scap - CE - (1) *Quercetum farnetto-cerris*, 700 m, 840; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1225; (24) *Corylo colurnae-Fagetum*, 990 m, 1192
- Spiraea media* Franz Schmidt - P caesp - EA (T) - (1) *Quercu-Carpinetum orientalis*, rocky places, 800 m, 1730; (19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 364
- Waldsteinia geoides* Willd. - H ros - CE - (10) *Fagetum moesiacaе*, rocks, 936 m, 1104; (18) *Fagetum moesiacaе*, 1050 m, 1166

#### RUBIACEAE

- Asperula cynanchica* L. - Ch suffr caesp - Pont-S-Sib-Sub-Med - (1) *Diantho-Armerietum rumelicae*, rocky places, 800 m, 852; (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 156
- A. taurina* subsp. *leucanthera* (G. Beck) Hayek - H scap - CE - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1256; (24) *Fagetum moesiacaе*, 900 m, 1763
- Crucianella angustifolia* L. - T scap - Sub-Med - (1) *Diantho-Armerietum rumelicae*, rocky places, 800 m, 853; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1644
- Cruciata glabra* (L.) Ehrend. - H scap - Sub-Med-CE - (1, 10) meadow, 800 m, 1410; (12) *Quercetum farnetto-cerris*, 700 m, 815; (20) Ružic & Randelović (1983); (23) *Fagetum moesiacaе*, 750 m, 110
- C. pedemontana* (Bellardi) Ehrend. - H scap - Sub-Med - (1, 19) rocky places, 750 m, 358
- Galium album* Miller - H scap - CE-Sub-Med - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1224
- G. aparine* L. - ST herb - evraz EA (B-M) - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 566
- G. corrudifolium* Vill. - H scap - Sub-Med - (10) *Fagetum moesiacaе*, rocks, 930 m, 1473
- G. divaricatum* Pourret ex Lam. - T scap - Sub-Med - (9) *Inulo-Danthonietum calycinae*, 600 m, 1348
- G. odoratum* (L.) Scop. - H scap - CE - Randelović & al. (1989); (10) *Fagetum moesiacaе*, 900 m, 1116; (24) *Corylo colurnae-Fagetum*, 990 m, 1176
- G. palustre* L. - H scap - Hol (B-T) - (22) wet meadows, 950 m, 987
- G. pseudoaristatum* Schur - H scap - Pont-S-Sib - (1, 12) *Fagetum moesiacaе*, 850 m, 809
- G. schultesii* Vest - H scap - CE - (1, 19) *Fagetum moesiacaе*, 750 m, 423
- G. verum* L. - H scap - EA (SB-M) - Randelović & al. (1989); (1, 10) meadow, 800 m, 1425; (17) meadow, 700 m, 1540; (20) Ružic & Randelović (1983)
- Sherardia arvensis* L. - T scap - Sub-Med - (10) rocks, 930 m, 1391; (20) Ružic & Randelović (1983)

#### RUTACEAE

- Dictamnus albus* L. - Ch suffr caesp - Pont-S-Sib - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 522; (25) *Quercetum farnetto-cerris*, 500 m, 1603

## SALICACEAE

- Populus nigra* L. - P scap - EA (T-M) - (8, 20) *Quercus-Carpinetum orientalis*, stream, 550 m, 481
- P. tremula* L. - P scap - EA (B-SM) - (1, 12) *Fagetum moesiacaе*, 750 m, 887
- Salix alba* L. - P scap - EA (T-M) - (8, 20) *Quercus-Carpinetum orientalis*, stream, 550 m, 488; (16, 27) by Prolomska river, 600 m, 719
- S. purpurea* L. - P caesp - EA (T-M) - (8, 20) *Quercus-Carpinetum orientalis*, stream, 550 m, 499
- S. triandra* L. - P caesp/P scap - EA (T-SM) - (14) by a stream, 600 m, 1650; (16, 27) by a stream, 650 m, 1721

## SANTALACEAE

- Thesium arvense* Horvatovszky - H scap - Pont-S-Sib - (20) Ružic & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1308; (25) meadow, 500 m, 1606; (14) meadow, 700 m, 1685

## SAXIFRAGACEAE

- Chrysosplenium alternifolium* L. - T scap - Hol (B-T) - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 76
- Saxifraga bulbifera* L. - H scap - Sub-Med - (1, 10) meadow, 800 m, 1407
- S. rotundifolia* L. - H ros - M(S)EM - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 545; (1, 19) *Fagetum moesiacaе*, 800 m, 471

## SCROPHULARIACEAE

- Cymbalaria muralis* P. Gaertner, B. Meyer & Scherb. - H rept - Sub-Med - (16) zidine, 600 m, 710
- Digitalis ferruginea* L. - H ros - Sub-Med - Randelović & al. (1989); (10) *Fagetum moesiacaе*, rocks, 930 m, 1469; (22) wet meadows, 950 m, 988
- D. grandiflora* Miller - H ros - CE - Randelović & al. (1989)
- D. lanata* Ehrh. - H ros - Sub-Med - Randelović & al. (1989); (16, 27) *Quercetum farnetto-cerris*, 600 m, 675
- Euphrasia pectinata* Ten. - SemiparT scap - Sub-Med - (10) rocks, 930 m, 1439
- E. stricta* D. Wolff ex J. F. Lehm. - SemiparT scap - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (20) Ružic & Randelović (1983)
- Lathraea squamaria* L. - ParG - CE - Randelović & al. (1989); (12, 23) *Fagetum moesiacaе*, 750 m, 112
- Linaria genistifolia* subsp. *linifolia* (Chav.) Nyman - H scap - Pont-S-Sib-Sub-Med - (10) rocks, 930 m, 1468; (16, 27) meadow, rocky places, 600 m, 717
- L. pelisseriana* (L.) Miller - T scap - Sub-Med - (10) rocks, 930 m, 1380
- L. vulgaris* Miller - H scap - EA (B-T) - (13, 22) meadow, 600 m, 980; (17) meadow, 700 m, 1577
- Melampyrum arvense* L. - SemiparT scap - EA (Pont-S-Sib-CE) - (16, 27) meadow, 600 m, 779
- M. cristatum* L. - SemiparT scap - Pont-S-Sib-CE - (17) meadow, 700 m, 1557; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1279

- Odontites lutea* (L.) Clairv. - SemiparT scap - Pont-S-Sib-Sub-Med - (14, 25) rocky places, 650 m, 1638
- O.s verna* (Bellardi) Dumort. - SemiparT scap - Pont-S-Sib-Sub-Med - (8, 20) meadow, 500 m, 1791
- Parentucellia latifolia* (L.) Caruel - T scap - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 550 m, 242; (1, 19) rocky places, 650 m, 399
- Pseudolysimachion spicatum* (L.) Opiz - G rhiz - EA (T-SM) - (8, 20) meadow, 500 m, 1790
- Rhinanthus minor* L. - SemiparT scap - Hol (B-T) - (20) Ružic & Randelović (1983)
- R. rumelicus* subsp. *simonkaianus* Soo - SemiparT scap - Pont-S-Sib - (1, 10) meadow, 800 m, 1414; (20) Ružic & Randelović (1983); (16, 27) meadow, 600 m, 691; 759
- Scrophularia nodosa* L. - H scap - EA (T) - (1, 12) *Fagetum moesiacaе*, roadsides, 900 m, 860
- S. umbrosa* Dumort. - H scap - EA (T-SM) - (1, 12) *Fagetum moesiacaе*, roadsides, 900 m, 880
- Verbascum banaticum* Roch. - H scap bienn - Pont-S-Sib - (20, 25) meadow, 500 m (*obs.*)
- V. blattaria* L. - H scap bienn/T scap - EA (Pont-S-Sib) - (4, 26) meadow, 700 m (*obs.*)
- V. chaixii* Vill. - H scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1306
- V. glabratum* Friv. - H scap - Pont-S-Sib - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 1086
- V. lychnitis* L. - H semiros - Pont-S-Sib-CE - (10) rocks, 930 m, 1370
- V. phlomoides* L. - H ros bienn - Sub-Med-Pont-S-Sib - (17) meadow, 700 m, 1515
- V. phoeniceum* L. subsp. *phoeniceum* - H scap - EA (Pont-S-Sib) - (10) rocks, 930 m, 1372
- V. phoeniceum* subsp. *flavidum* (Boiss.) Bornm. - H scap - Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1274
- V. pulverulentum* Vill. - H ros bienn - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1035
- Veronica arvensis* L. - T scap - EA (T-M) - (1, 19) rocky places, 700 m, 401
- V. austriaca* subsp. *jacquinii* (Baumg.) J. Maly - H scap - Pont-S-Sib-Sub-Med - (17) meadow, 700 m, 1567; (1, 19) rocky places, 700 m, 397; (20) Ružic & Randelović (1983)
- V. beccabunga* L. - H rept - EA (T-SM) - (7, 26) by a stream, 750 m, 905
- V. chamaedrys* subsp. *vindobonensis* M. Fischer - H scap - Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 171; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1244
- V. dillenii* Crantz - T scap/H scap bienn - Pont-S-Sib-Sub-Med - (1, 19) rocky places, 700 m, 402
- V. hederifolia* L. - T scap - Sub-Med-Pont-S-Sib - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1093; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1242
- V. officinalis* L. - H rept - CE - Randelović & al. (1989); (17) meadow, 700 m, 1572; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1282
- V. polita* Fries - T scap - Sub-Med-Pont-S-Sib - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 550 m, 243



*V. serpyllifolia* L. - H rept - CE - (1, 12) meadow, 750 m, 807; (6, 14) *Quercus-Carpinetum*, 800 m, 1669

#### SOLANACEAE

*Atropa bella-dona* L. - H scap - CE - (1, 12) roadsides, 900 m, 881

*Datura stramonium* L. - T scap - Cosm - Randelović & al. (1989)

*Hyoscyamus niger* L. - T scap/H scap bienn - EA (T-M) - Randelović & al. (1989)

*Solanum dulcamara* L. - S lig - EA (T-M) - (16, 27) *Quercetum farnetto-cerris*, 600 m, 671

*S. nigrum* L. - T scap - Cosm - (16, 27) by a stream, 650 m (*obs.*)

#### STAPHYLEACEAE

*Staphylea pinnata* L. - P caesp/P scap - CE - (24) *Corylo colurnae-Fagetum*, 900-990 m, 1197; 1757

#### TILIACEAE

*Tilia cordata* Miller - P scap - CE - (10) *Fagetum moesiacaе*, rocks, 930 m, 1374

*T. platyphyllos* Scop. - P scap - CE - (13, 22) *Fagetum moesiacaе*, 900 m, 993

#### ULMACEAE

*Ulmus glabra* Hudson - P scap - CE - (6, 14) *Quercus-Carpinetum*, 750 m, 1689

*U. minor* Miller - P scap - CE-Sub-Med - (25) *Quercetum farnetto-cerris*, 500 m, 1622

#### UMBELLIFERAE

*Aegopodium podagraria* L. - G rhiz - CE - Randelović & al. (1989); (1, 12) *Fagetum moesiacaе*, roadsides, 850-900 m, 862; 1737; (9) by a stream, 600 m, 1360

*Aethusa cynapium* L. - T scap/H scap bienn - CE - (14) by a stream, 600 m, 1648; (22) *Fagetum moesiacaе*, rocks, 950 m, 1777

*Anthriscus cerefolium* (L.) Hoffm. - T scap - Cult - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1262

*A. nemorosa* (Bieb.) Sprengel - H scap - EA (T-M) - (1, 19) *Quercus-Carpinetum orientalis*, rocky places, 700 m, 421; (24) *Corylo colurnae-Fagetum*, 990 m, 1183

*A. sylvestris* (L.) Hoffm. - H scap - EA (B-T) - (1, 12) *Fagetum moesiacaе*, 850 m, 1742; (18) *Fagetum moesiacaе*, 1050 m, 1168

*Bupleurum praealtum* L. - T scap - Sub-Med-Pont-S-Sib - (6, 14) *Quercus-Carpinetum*, 750 m, 1699; (16) ruderal place, 600 m, 1592

*Caucalis platycarpus* L. - T scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 306

*Chaerophyllum aureum* L. - H scap - Sub-Med - (1, 10) meadow, 800 m, 1420; (6, 14) *Quercus-Carpinetum*, 750 m, 1696

*C. temulentum* L. - T scap/H bienn - CE - (1, 12) *Fagetum moesiacaе*, 850 m, 1748; (26) roadsides, 500 m, 553; (20, 25) meadow, 500 m, 1597

*Conium maculatum* L. - H scap bienn - Sub-Med-Pont-S-Sib - (20, 25) meadow, 500 m (*obs.*)

*Daucus carota* L. - H scap/T scap - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (13, 22) meadow, 600 m, 981; (20) Ružić & Randelović (1983)

- Eryngium campestre* L. - H scap - Pont-S-Sib-Sub-Med - Randelović & al. (1989); (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1314
- \**E. palmatum* Pančić & Vis. - G rad - END - (1) *Quercu-Carpinetum orientalis*, rocky places, 800 m, 1728
- Ferulago campestris* (Besser) Grec. - H scap - Sub-Med - (9) *Inulo-Danthonietum calycinae*, 700 m, 1659
- F. sylvatica* (Besser) Reichenb. - H scap - Sub-Med - (1, 12) meadow, 700 m, 821
- Heracleum sphondylium* L. - H scap - CE - Randelović & al. (1989); (6, 14) *Quercu-Carpinetum*, 750 m, 1697; (17) meadow, 700 m, 1499
- Myrrhoides nodosa* (L.) Cannon - T scap - Sub-Med - (14, 25) *Quercetum farnetto-cerris*, 650 m, 1639
- Oenanthe silaifolia* Bieb. - H scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1315; (16, 27) *Quercetum farnetto-cerris*, 600 m, 737
- Orlaya grandiflora* (L.) Hoffm. - T scap - Sub-Med - (26) meadow, rocky places, 500 m, 533
- Pastinaca sativa* L. - H scap - Sub-Med-Pont-S-Sib - (1, 12) *Fagetum moesiacaе*, 850 m, 1736
- \**Peucedanum aegopodioides* (Boiss.) Vandas - H scap - END - (20, 25) meadow, 500 m, 1599
- P. alsaticum* L. - H scap - EA (Pont-S-Sib) - (25) *Quercetum farnetto-cerris*, 500 m, 1613
- Physospermum cornubiense* (L.) DC. - H scap - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (6, 14) *Quercu-Carpinetum*, 750 m, 1690; (22, 24) *Fagetum moesiacaе*, 900 m, 1766
- Pimpinella saxifraga* L. - H scap - Pont-S-Sib-CE - (17) meadow, 700 m, 1554
- Sanicula europaea* L. - H scap - CE - (22, 24) *Fagetum moesiacaе*, 900 m (*obs.*)
- Seseli annuum* L. - T scap/H scap bienn - Pont-S-Sib-CE - (17) meadow, 700 m, 1555
- S. pallasii* Besser - H scap bienn - Pont-S-Sib - (6, 14) rocks, 800 m, 1713; (25) rocky places, 650 m, 1630
- S. peucedanoides* (Bieb.) Kos.-Pol. - H scap - Sub-Med-Pont-S-Sib - (1) *Diantho-Armerietum rumelicae*, fields, 800 m, 1734; (17) meadow, 700 m, 1556
- Smyrniurnum perfoliatum* L. - H scap - Sub-Med - (16, 27) *Quercetum farnetto-cerris*, 600 m, 669
- Tordylium maximum* L. - T scap - Sub-Med - (6, 14) rocks, 800 m, 1703; (16) ruderal place, 600 m, 1580
- Torilis arvensis* (Hudson) Link - T scap - CE-Sub-Med - (16) ruderal place, 600 m, 1582
- T. japonica* (Houtt.) DC. - T scap - EA (T-M) - (13, 22) *Fagetum moesiacaе*, 800 m, 976; (14) by a stream, 600 m, 1649

#### URTICACEAE

- Parietaria officinalis* L. - H scap - Sub-Med-CE - Randelović & al. (1989); (22) *Fagetum moesiacaе*, rock bases, 950 m, 989
- Urtica dioica* L. - H scap - Hol (B-T) - (25) *Quercetum farnetto-cerris*, 500 m (*obs.*)
- U. urens* L. - T scap - Hol (B-T) - (22) *Corylo columnae-Fagetum*, rocks, 1017 m, 1182

#### VALERIANACEAE

- Valerianella carinata* Loisel. - T scap - Sub-Med - (1, 19) rocky places, 700 m, 433

- V. locusta* (L.) Laterrade - T scap - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 163; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1246  
*V. turgida* (Steven) Betcke - T scap - Sub-Med-Pont-S-Sib - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 540

#### VERBENACEAE

- Verbena officinalis* L. - H scap - Cosm - Randelović & al. (1989); (1) *Diantho-Armerietum rumelicae*, fields, 800 m, 1735; (13, 22) *Fagetum moesiacaе*, 900 m, 1003

#### VIOLACEAE

- Viola alba* Besser - H scap - CE - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1077; (12, 23) *Fagetum moesiacaе*, 750 m, 120  
*V. hirta* L. - H scap - EA (T-SM) - (10) *Fagetum moesiacaе*, rocks, 930 m, 1462  
*V. kitaibeliana* Schultes - T scap - Sub-Med-Pont-S-Sib - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 182  
 \**V. macedonica* Boiss. & Heldr. - H caesp - END - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 550 m, 239; (22) *Fagetum moesiacaе*, rock bases, 950 m, 1007; (23) meadow, 650 m, 151  
*V. reichenbachiana* Jordan ex Boreau - H scap semiros - CE - (1) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 1157  
*V. suavis* Bieb. - H ros - Pont-S-Sib - (26) roadsides, 500 m, 63

#### VITACEAE

- Vitis vinifera* subsp. *sylvestris* (C. C. Gmelin) Hegi - S lig - Sub-Med - (8, 20) roadsides, 450 m, 345

### MONOCOTYLEDONES

#### AMARYLLIDACEAE

- Galanthus nivalis* L. - G bulb - Sub-Med-CE - (1, 19) *Fagetum moesiacaе*, 850 m, 1092

#### ARACEAE

- Arum maculatum* L. - G rhiz - CE-Sub-Med - (24) *Corylo colurnae-Fagetum*, 900 m (obs.)

#### CYPERACEAE

- Carex caryophyllaea* Latourr. - G rhiz caesp - EA (Pont-S-Sib) - (1, 19) rocky places, 650-700 m, 219; 461; 1097; (20) Ružic & Randelović (1983)  
*C. distans* L. - G rhiz caesp - Sub-Med-CE - (3, 27) by a stream, 650 m, 795  
*C. divulsa* Stokes - H caesp - Sub-Med - (26) meadow, rocky places, 500 m, 558; (3, 27) by a stream, 600 m, 478; 479  
*C. halleriana* Asso - H caesp - Sub-Med - (8, 20) *Quercu-Carpinetum orientalis*, stream, 550 m, 514  
*C. hirta* L. - G rhiz caesp - CE - (3, 27) by a stream, 600 m, 480

- C. muricata* L. - H caesp - Pont-S-Sib-Sub-Med - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1205; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1636  
*C. ovalis* Good. - H caesp - CE - (3, 27) by a stream, 650 m, 797  
*C. sylvatica* Hudson - H caesp - EA (T-M) - (9) by a stream, 600 m, N.M. (*obs.*)  
*C. tomentosa* L. - H caesp/G rhiz caesp - EA (SB-T) - (1, 10) meadow, 800 m, 1434

#### DIOSCOREACEAE

- Tamus communis* L. - SG herb rhiz - Sub-Med - Randelović & al. (1989); (1, 19) *Fagetum moesiacaе*, 750 m, 443

#### Gramineae

- Achnatherum calamagrostis* (L.) Beauv. - H caesp - Sub-Med - (17) meadow, 700-850 m, 948; 1525  
*Aegilops geniculata* Roth - T caesp - Sub-Med - (1, 12) meadow, 750 m, 798  
*Agrostis capillaris* L. - H caesp - Sub-Med-Pont-S-Sib - (10) rocks, 930 m, 1449; (17) meadow, 700 m, 1579; (20) Ružić & Randelović (1983); (25) meadow, 500 m, 1610  
*A. stolonifera* L. - H rept - Sub-Cosm - (9) by a stream, 600 m (*obs.*)  
*Aira elegantissima* Schur - T scap - Sub-Med - (20) Ružić & Randelović (1983)  
*Alopecurus pratensis* L. - H caesp - EA (B-M) - (1, 10) meadow, 800 m, 1400; (17) meadow, 850 m, 956; (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 681  
*Anthoxanthum odoratum* L. - H caesp - CE-Bor - (10) rocks, 930 m, 1436; (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 732  
*Arrhenaterum elatius* (L.) Beauv. ex J. & C. Presl - H caesp - CE-Sub-Med - (1, 10) meadow, 800 m (*obs.*)  
*Avenula compressa* (Heuff.) W. Sauer & Chmlitschek - H caesp - Pont-S-Sib - (20) rocky places, Nikolic *et al.* (1986)  
*A. pratensis* (L.) Dumort. - H caesp - CE - (20) Ružić & Randelović (1983)  
*Brachypodium pinnatum* (L.) Beauv. - H caesp - EA (Pont-S-Sib) - (17) meadow, 700 m, 1535; (20) Ružić & Randelović (1983)  
*B. sylvaticum* (Hudson) Beauv. - H caesp - CE - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1025; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1633  
*Briza media* L. - H caesp - CE - (1, 10) meadow, 800 m, 1428; (12) meadow, 750 m, 799; (17) meadow, 700 m, 1519; (20) Ružić & Randelović (1983)  
*Bromus arvensis* L. - T scap - Sub-Med-Pont-S-Sib - (16, 27) meadow, 600 m, 730  
*B. commutatus* Schrader - T scap - Sub-Med-CE - (17) meadow, 850 m, 943  
*B. hordeaceus* L. - T scap - Sub-Med-Pont-S-Sib - (20) Ružić & Randelović (1983); (7, 26) rocky places roadsides, 750 m, 946  
*B. inermis* Leysser - H caesp - Hol (SB-SM) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1303; (25) meadow, 500 m, 1614  
*B. ramosus* Hudson - H caesp - CE - (22) *Fagetum moesiacaе*, rocks, 950 m, 1774; (16, 27) meadow, 600 m, 952  
*B. squarrosus* L. - T scap - Sub-Med-Pont-S-Sib - (17) meadow, 850 m, 942; (8, 20) *Quercu-Carpinetum orientalis*, 450 m, 337; (14, 25) meadow, 650 m, 1629; (16, 27) meadow, 600 m, 729

- B. sterilis* L. - T caesp - Sub-Med-Pont-S-Sib - (17) meadow, 850 m, 944; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 353
- Calamagrostis arundinacea* (L.) Roth - H caesp - EA (T-SM) - (1, 10) meadow, 800 m (obs.)
- Chrysopogon gryllus* (L.) Trin. - H caesp - Sub-Med-Pont-S-Sib - (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450-550 m, 1065; 1277; (16, 27) meadow, rocky places, 600 m, 722
- Cleistogenes serrotina* (L.) Keng - H caesp - Sub-Med-Pont-S-Sib - (8) *Festuco-Chrysopogonetum grylli*, 550 m, 1067; (20) roadsides, 500 m, 1796
- Cynosurus cristatus* L. - H caesp - CE-Sub-Med - (1, 12) meadow, 750 m, 801; (17) meadow, 700 m, 1529; (20) Ružić & Randelović (1983)
- C. echinatus* L. - T caesp - Sub-Med - (14, 25) *Quercetum farnetto-cerris*, 650 m, 1631; (16, 27) meadow, 600 m, 728
- Dactylis glomerata* L. - H caesp - Sub-Med-Pont-S-Sib - (16, 27) *Quercetum farnetto-cerris*, 600 m, 679; 723
- Danthonia alpina* Vest - H caesp - CE - (9) *Inulo-Danthonietum calycinae*, 700 m, 1657; (17) meadow, 700 m, 1525; 1542; (20) Ružić & Randelović (1983); (8) *Festuco-Chrysopogonetum grylli*, 450 m, 1304; (16, 27) meadow, 600 m, 680
- D. decumbens* (L.) DC. in Lam. & DC. - H caesp - CE - (20) Ružić & Randelović (1983)
- Dasypyrum villosum* (L.) Candargy - T scap - Sub-Med - (20) Ružić & Randelović (1983)
- Dichanthium ischaemum* (L.) Roberty - H scap - EA (Pont-S-Sib) - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1066; (5, 25) roadsides, 450 m, 1780
- Echinochloa crus-galli* (L.) Beauv. - T caesp - Cosm - (17) meadow, 700 m, 1549
- Elymus caninus* (L.) L. - H caesp - EA (B-SM) - (17) meadow, 700 m, 1534
- E. hispidus* (Opiz) Melderis - G rhiz - Sub-Med-Pont-S-Sib - Randelović & al. (1989); (17) meadow, 700 m, 1534
- E. repens* (L.) Gould - G rhiz caesp - EA - Randelović & al. (1989); (16, 27) meadow, 600 m, 734
- Festuca dalmatica* (Hackel) K. Richter - H caesp - Pont-S-Sib-Sub-Med - (17) meadow, 750-850 m, 939; 941; (1, 19) rocky places, 650 m, 418; (8, 20) *Festuco-Chrysopogonetum grylli*, 450-550 m, 166; 352; 491; (16, 27) meadow, 600 m, 724; 725; 731
- F. drymeja* Mert. & Koch - H caesp - CE - (24) *Corylo colurnae-Fagetum*, 900 m (obs.)
- F. gigantea* (L.) Vill. - H caesp - EA (T) - (14, 25) *Quercetum farnetto-cerris*, 650 m, 1646
- F. heterophylla* Lam. - H caesp - CE - (16, 27) meadow, 600 m, 678
- F. pratensis* Hudson subsp. *pratensis* - H caesp - EA (T) - (17) meadow, 850 m, 940; (20) Ružić & Randelović (1983); (14, 25) meadow, 700 m, 1680
- F. pratensis* subsp. *apennina* (De Not) Hegi - H caesp - (M)SEM - (1, 10) meadow, 800 m, 1421
- F. rubra* L. - H caesp - Hol (B-M) - (17) meadow, 850 m, 937
- F. rupicola* Heuffel - H caesp - Pont-S-Sib - (20) Ružić & Randelović (1983)
- F. valesiaca* s. l. Schleicher ex Gaudin - H caesp - EA (Pont-S-Sib) - (20) Ružić & Randelović (1983); (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1026
- Glyceria nemoralis* (Uechtr.) Uechtr. - HydG rhiz emer - Pont-S-Sib-CE - (1, 12) roadsides, 850 m, 804

- Holcus lanatus* L. - H caesp - CE - (16, 27) meadow, 600 m, 734
- Hordelymus europaeus* (L.) C. O. Hartz - H caesp - CE - (1, 12) *Fagetum moesiaca*e, 850 m, 1750
- Hordeum murinum* Hudson - T caesp - Sub-Med-Pont-S-Sib - (20, 25) meadow, 500 m (obs.)
- H. vulgare* L. - T caesp - Adv - (9) *Inulo-Danthonietum calycinae*, 600 m, 1347
- Koeleria macrantha* (Ledeb.) Schultes in Schultes & Schultes fil. - H caesp - Hol (SM-T) - (1, 19) rocky places, 650 m, 803; (20) Ružic & Randelović (1983); (25) meadow, 500 m, 1605
- Lolium perenne* L. - H caesp - Sub-Med-CE - (20) Ružic & Randelović (1983)
- Melica ciliata* L. - H caesp - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1039
- M. transsilvanica* Schur - H caesp - EA (Pont-S-Sib) - (17) meadow, 850 m, 949
- M. uniflora* Retz. - H caesp - CE - (1) *Quercu-Carpinetum orientalis*, rocky places, 750 m, 1163; (14, 25) *Quercetum farnetto-cerris*, 650 m, 1645
- Milium effusum* L. - H scap - Hol (B-T) - (1, 12) *Fagetum moesiaca*e, 850 m, 1749
- M. vernale* Bieb. - T scap - EA (T-M) - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 168
- Molinia caerulea* (L.) Moench - H caesp - CE-Bor - (17) meadow, 850 m, 958
- Phleum montanum* C. Koch - H caesp - (M)SEM - (20) rocky places, Nikolic *et al.* (1986); (8) *Festuco-Chrysopogonetum grylli*, 450-550 m, 340; 497; 1297; (16, 27) meadow, 600 m, 726
- P. pratense* L. - H caesp - CE - (6, 14) *Quercu-Carpinetum*, 800 m, 1668; (17) meadow, 700-850 m, 947; 1523; 1543
- Pholiurus pannonicus* (Host) Trin. - T caesp - Pont-S-Sib - (20) rocky places, Nikolic *et al.* (1986)
- Poa angustifolia* L. - H caesp - EA (T-SM) - (20) Ružic & Randelović (1983)
- P. annua* L. - T caesp - Cosm - (16) ruderal place, 600 m (obs.)
- P. bulbosa* L. - H caesp - Pont-S-Sib-Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 169; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1024
- P. compressa* L. - H caesp - CE-Bor - (9) *Inulo-Danthonietum calycinae*, 600 m, 1654
- P. nemoralis* L. - H caesp - Hol (B-T) - (17) meadow, 850 m, 957; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1273; (16, 27) meadow, 600 m, 683
- P. pratensis* L. - H caesp - Hol (B-M) - (17) meadow, 700 m, 1518; (14, 25) meadow, 650 m, 1641; (16, 27) meadow, 600 m, 951; 954
- P. trivialis* subsp. *sylicola* (Guss.) H. Lindb. - H caesp - EA (B-T) - (16, 27) meadow, 600 m, 733
- Setaria pumila* (Poiret) Schultes in Schultes & Schultes fil. - T caesp - EA (T-BTR) - (20) ruderal place, 550 m, 1064; (5, 25) roadsides, 450 m, 1787
- Stipa joannis* Čelak - H caesp - Pont-S-Sib - (1, 19) rocky places, 650 m, 802
- Taeniatherum caput-medusae* (L.) Nevski - T scap - Sub-Med - (20, 25) meadow, 500 m, 1600
- Tragus racemosus* (L.) All. - T caesp rept - Cosm - (8, 20) roadsides, 500 m, 1795
- Trisetum flavescens* (L.) Beauv. - H caesp - CE - (9) *Inulo-Danthonietum calycinae*, 700

m, 1658; (17) meadow, 700 m, 1525; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1302

*Ventenata dubia* (Leers) F. W. Schultz - T caesp - Pont-S-Sib-Sub-Med - (16, 27) meadow, 600 m, 735

*Vulpia myuros* (L.) C. C. Gmelin - T caesp - Sub-Med - (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 496; (16, 27) meadow, 600 m, 735

#### IRIDACEAE

*Crocus chrysanthus* (Herbert) Herbert - G bulb - Pont-S-Sib - (1) *Diantho-Armerietum rumelicae*, fields, 850 m (*obs.*)

*Crocus flavus* Weston - G bulb - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 50; (20) Ružić & Randelović (1983); (23) meadow, 650 m, 154

*Iris graminea* L. - G rhiz - Pont-S-Sib-Sub-Med - (1, 19) rocky places, 750 m, 855; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1002

*I. reichenbachii* Heuffel - G rhiz - (M)SEM - (10) rocks, 930 m, 1442; (1, 19) rocky places, 750 m, 386; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1255

*I. variegata* L. - G rhiz - Pont-S-Sib - (8, 20) meadow, 500 m, 1792

#### JUNCACEAE

*Juncus articulatus* L. - G rhiz - Hol (B-SB) - (3, 27) by a stream, 650 m, 793

*J. bufonius* L. - G rhiz caesp - Hol (B-T) - (3, 27) by a stream, 650 m, 792

*J. effusus* L. - G rhiz caesp - Hol (T) - (22) wet meadows, 950 m, 975

*J. filiformis* L. - G rhiz caesp - Hol (B-M) - (16, 27) *Quercetum farnetto-cerris*, by a stream, 600 m, 727

*J. inflexus* L. - H caesp - EA (T-M) - (3, 27) by a stream, 650 m, 794

*Luzula campestris* (L.) DC. - H scap - CE - (20) Ružić & Randelović (1983)

*L. forsteri* (Sm.) DC. - H caesp - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 30; (15, 21) rocks, 600 m, (*obs.*); (26) by Prolomska river, 500 m, 569

*L. pallescens* Swartz - H caesp - EA (B-T) - (1, 10) meadow, 800 m, 1408; (3, 27) by a stream, 650 m, 796

*L. sylvatica* (Hudson) Gaudin - H caesp - CE - (9) by a stream, 600 m, 1361

#### LILIACEAE

*Allium carinatum* L. - G bulb - Sub-Med - (10) rocks, 930 m, 1485

*A. flavum* L. - G bulb - Sub-Med-Pont-S-Sib - (10) rocks, 930 m, 1461

*A. guttatum* Steven - G bulb - Sub-Med - (20) rocky places, Nikolic *et al.* (1986); (6, 14) rocks, 800 m, 1712; (17) meadow, 700 m, 1562

*A. ursinum* L. - G bulb - CE - (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1210

*A. vineale* L. - G bulb - Sub-Med-CE - (10) rocks, 930 m, 1459; (6, 14) rocks, 800 m, 1709; (16) ruderal place, 600 m, 1591; (22) *Corylo colurnae-Fagetum*, rocks, 1017 m, 1768

*Colchicum autumnale* L. - G bulb - Sub-Med-CE - Randelović & al. (1989); (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1044

*Erythronium dens-canis* L. - G bulb - EA (SB-M) - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 79; (12, 23) *Fagetum moesiaca*, 750 m, 113

- Gagea bohémica* (Zauscher) Schultes & Scultes - G bulb - Sub-Med-Pont-S-Sib - (1, 19) rocky places, 750 m, 206
- G. lutea* (L.) Ker-Gawler - G bulb - EA (T-SM) - (1, 19) *Fagetum moesiacaе*, 800 m, 207; (23) meadow, 650 m, 146; (12) *Fagetum moesiacaе*, 750 m, 114
- G. pratensis* (Pers.) Dumort. - G bulb - Pont-S-Sib - (1) *Diantho-Armerietum rumelicaе*, fields, 800 m, 208; (10) rocks, 936 m, 1117
- Lilium martagon* L. - G bulb - EA (T) - (22, 24) *Fagetum moesiacaе*, 900 m, 1764
- Muscari comosum* (L.) Miller - G bulb - Sub-Med - (9) *Inulo-Danthonietum calycinae*, 600 m, 1343; (20) Ružić & Randelović (1983); (16, 27) meadow, 600 m, 776
- M. neglectum* Guss. ex Ten. - G bulb - Sub-Med - (5) *Sedo-Dianthetum pinifoliae*, rocky places, 500 m, 38; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 199
- Ornithogalum pyramidale* L. - G bulb - Sub-Med-Pont-S-Sib - (16, 27) meadow, rocky places, 600-650 m, 777; 906
- O. pyrenaicum* L. - G bulb - Sub-Med - (20) Ružić & Randelović (1983)
- O. umbellatum* L. - G bulb - Sub-Med-Pont-S-Sib - (1, 19) *Quercu-Carpinetum orientalis*, rocky places, 650 m, 371
- Paris quadrifolia* L. - G rhiz - EA (SB-T) - (18) *Fagetum moesiacaе*, 1050 m, 1170; (24) *Corylo colurnae-Fagetum*, 900 m, 1754
- Polygonatum odoratum* (Miller) Druce - G rhiz - EA (SB-T) - (1, 12) *Fagetum moesiacaе*, 900 m, 861; (19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 365
- Ruscus aculeatus* L. - Ch frut caesp/G rhiz - Sub-Med - Randelović & al. (1989); (12, 23) *Fagetum moesiacaе*, 750 m, 122
- R. hypoglossum* L. - Ch frut rept/G rhiz - Sub-Med - (1) *Fagetum moesiacaе*, 800 m, 1101; (10) *Fagetum moesiacaе*, rocks, 930 m, 1492
- Scilla autumnalis* L. - G bulb - Sub-Med - (6, 14) rocks, 800 m, 1708; (8, 20) *Festuco-Chrysopogonetum grylli*, 550 m, 1036
- S. bifolia* L. - G bulb - CE - (9) *Quercetum farnetto-cerris*, wet place, 500 m, 78; (23) meadow, 650 m, 147

#### ORCHIDACEAE

- Cephalanthera damasonium* (Miller) Druce - G rhiz - Sub-Med-CE - (1, 12) *Fagetum moesiacaе*, 850 m, 1746
- Epipactis helleborine* (L.) Crantz - G rhiz - EA (T-M) - (1, 12) *Fagetum moesiacaе*, 850 m, 1745; (10) *Fagetum moesiacaе*, rocks, 930 m, 1443; (17) meadow, 700 m, 1504
- Gymnadenia conopsea* (L.) R. Br. - G tub - EA (B-T) - (1, 10) meadow, 800 m, 1419; (17) meadow, 850 m, 839
- Neottia nidus-avis* (L.) L. C. M. Richard - SaprG - CE - (6, 14) *Quercu-Carpinetum*, 750 m, 1694
- Orchis coriophora* L. - G tub - Sub-Med - (10) rocks, 930 m, 1384; (8, 20) *Festuco-Chrysopogonetum grylli*, 450 m, 1271
- O. mascula* (L.) L. - G tub - Sub-Med-CE - (1) *Diantho-Armerietum rumelicaе*, rocky places, 850 m, 1155
- O. morio* subsp. *picta* (Lois.) A. & G. - G tub - Sub-Med-Pont-S-Sib - (1) *Diantho-Armerietum rumelicaе*, rocky places, 850 m, 1154; (9) roadsides, 500 m, 1152; (19) *Quercu-Carpinetum orientalis*, rocky places, 700 m, 398



*O. purpurea* Hudson - G tub - Sub-Med-Pont-S-Sib - (1) *Quercus-Carpinetum orientalis*, 750 m, 1153

*O. simia* Lam. - G tub - Sub-Med - (9) roadsides, 500 m, 1151

*O. tridentata* Scop. - G tub - Sub-Med - (1, 10) meadow, 800 m, 1433

## Discussion

The overall number of vascular plants comprising the flora of Mt. Sokolovica comes to 778 taxa of which 771 were of specific and 7 of subspecific rank included into 351 genera and 76 families. 173 plant species were already known from the literature and 605 of these taxa were reported for the first time for this area. 50 literature records have not yet been confirmed, nor definitely have rejected for this territory.

Divisio *Pteridophyta* represented 1.2% of the total flora and divisio *Magnoliophyta* 98.8%. Within the *Magnoliophyta*, subdivisio *Gymnospermae* was represented only with 0.3%, while the classis *Dicotyledones* was the most numerous with 636 taxa (81.7%) and consist of 276 genera and 63 families. Classis *Monocotyledones* was represented with 9 families, 66 genera and 131 taxa (16.8% of the total flora).

In taxonomic spectrum of the flora of investigated area (Table 4), the most numerous in species were *Compositae* (95), *Gramineae* (72) and *Leguminosae* (71).

For the chorological analysis, all plant taxa were classified into 32 chorological groups (see Table 3) and into 10 wider chorological types. Adventive and cultivated plants (12 taxa - 1.5%) were also classified into “chorological groups” but were not included into chorological analysis. On the basis of chorological types, the phytogeographical analysis showed that this area was of submediterranean-central-european-pontic characteristics

Table 3. Abbreviations for the chorological groups (including adventive and cultivated plants).

Adv	Adventive	CSEM	Central South European mountane
A-A	Arctic-Alpine	SEM	South European mountane
(A-M)	Arctic-Meridional	Pont-S-Sib	Pontic-South-Siberian
(A-T)	Arctic-Temporal	Sub-Cosm	Sub-Cosmopolitan
Bor	Boreal	Sub-Med	Submediterranean-Mediterranean
(B-M)	Boreo-Meridional	(SA-M)	Subarctic-Meridional
(B-SB)	Boreo-Subboreal	(SB-M)	Subboreo-Meridional
(B-SM)	Boreo-Submeridional	(SB-SM)	Subboreo-Submeridional
(B-T)	Boreo-Temperate	(SB-T)	Subboreo-Temperate
Cosm	Cosmopolitan	(SM-M)	Submeridio-Teridional
Cult	Cultivated	(SM-T)	Submeridio-Temperate
EA	Eurasian	(T)	Temperate
END	Endemic	(T-BTR)	Temperate-Boreotropical
Hol	Holarctic	(T-M)	Temperate-Meridional
CE	Central European	(T-SM)	Temperate-Submeridional
CEM	Central European mountane	(T-TR)	Temperate-Tropical

Table 4. The ten largest families (in genera and species) in the flora of Mt. Sokolovica.

Family	Genera	Species
<i>Compositae</i>	42	95
<i>Gramineae</i>	42	72
<i>Umbelliferae</i>	23	32
<i>Cruciferae</i>	21	33
<i>Labiatae</i>	20	45
<i>Leguminosae</i>	19	71
<i>Rosaceae</i>	16	37
<i>Caryophyllaceae</i>	14	34
<i>Scrophulariaceae</i>	12	37
<i>Liliaceae</i> s.l.	11	22
Total	220	478

(Table 5). Submediterranean-mediterranean (Sub-Med) chorological type was the most dominant in the flora of Mt. Sokolovica with 269 taxa (35.1%). The second one was Central-European (CE) with 197 plants species (25.9%), and the third one was Pontic-South-Siberian (Pont-S-Sib) with 137 taxa (17.9%). There were 21 (2.7%) Balkan endemic taxa in the flora of Mt. Sokolovica. Horvat & al. (1974) recognized three floristic-vegetational provinces in the Balkan peninsula and according to that division we defined three different types of Balkan endemics: Ilirian, Moesian and Scardo-Pindhian (Table 6).

Domination of Submediterranean-mediterranean (Sub-Med) chorological type reflects the modified-Mediterranean to moderate climatic characteristics and geographical position of the lower parts of Mt. Sokolovica, while the high percentage of Central European taxa indicates the significant presence of well-preserved mesophilous forest communities in the central and upper parts of this mountain. Low percentage of Eurasian-mountane (2.2%), Boreal (1.6%) and Arctic-Alpine (only 0.1%) chorological types point to relatively low altitude of this mountain as well as weak phytogeographical links with the high-mountain regions of the Balkan peninsula (especially nearest Mt. Kopaonik).

The ecological analysis showed that flora of the investigated area was of hemicryptophyta type (Table 7), as well as the flora of Serbia (Diklić 1984) and Balkan peninsula

Table 5. Chorological spectrum of the flora of Mt. Sokolovica.

Chorological type	Species and subspecies	%
Submediterranean-Mediterranean; Sub-Med	269	35.1
Central European; CE	198	25.9
Pontic-South Siberian; Pont-S-Sib	137	17.9
Eurasian; EA	52	6.9
Holarctic; Hol	37	4.8
Endemic; END	20	2.6
Eurasian-mountane; EAM (MEM, MSEM, SEM)	17	2.2
Cosmopolitan; Cosm	15	1.9
Boreal; Bor	12	1.6
Sub-Cosmopolitan; Sub-Cosm	8	1.0
Arctic-Alpine; A-A	1	0.1
Total	766	100.0

Table 6. List of Balkan endemic taxa in Mt. Sokolovica and type of endemics – ilir. (Ilirian endemic type), moes. (Moesian endemic type), sc.-pind. (Scardo-Pindhian endemic type); E (eastern), W (western), N (northern).

Taxon	Balkan endemic type
<i>Armeria rumelica</i> Boiss.	moes.-sc.pind.(N)
<i>Campanula sparsa</i> Friv. subsp. <i>sphaerotrix</i> (Gris.) Hayek	moes.-sc.pind.
<i>Dianthus cruentus</i> Griseb. subsp. <i>turcicus</i> (Velen.) Stoj. & Acht.	ilir.-moes.-sc.pind.
<i>Dianthus giganteus</i> D'Urv. subsp. <i>croaticus</i> (Borb.) Tutin	ilir.-moes.-sc.pind.(E)
<i>Dianthus pinifolius</i> Sibth. & Sm. subsp. <i>pinifolius</i>	moes.-sc.pind.(E)
<i>Eryngium palmatum</i> Pančić & Vis.	ilir.-moes.-sc.pind.
<i>Genista subcapitata</i> Pančić	moes.
<i>Hypericum annulatum</i> Moris	moes.-sc.pind.
<i>Hypericum rumeliacum</i> Boiss.	moes.-sc.pind.
<i>Peucedanum aegopodioides</i> (Boiss.) Vandas	ilir.(E)-moes.-sc.pind.
<i>Potentilla recta</i> L. subsp. <i>laciniosa</i> (Waldst. & Kit. ex Nestler) Nyman	moes.
<i>Ranunculus psilostachys</i> Griseb.	moes.(W)-sc.pind.
<i>Scabiosa fumarioides</i> Vis. & Pančić	moes.-sc.pind.(N)
<i>Sedum stefco</i> Stefanov	moes.
<i>Stachys cretica</i> L. subsp. <i>cassia</i> (Boiss.) Rech. fil.	moes.-sc.pind.
<i>Stachys scardica</i> (Griseb.) Hayek	ilir.-moes.(W)-sc.pind.(N)
<i>Trifolium medium</i> L. subsp. <i>balcanicum</i> Velen.	ilir.-moes.-sc.pind.
<i>Trifolium pignanii</i> Fauche & Chaub.	ilir.-moes.-sc.pind.
<i>Trifolium trichopterum</i> Pančić	moes.-sc.pind.
<i>Trifolium velenovskyi</i> Vandas	ilir.-moes.-sc.pind.
<i>Viola macedonica</i> Boiss. & Heldr.	ilir.-moes.-sc.pind.

(Turill 1929). The hemicryptophytes were represented with 49.5%; therophytes followed with 21.5% and geophytes with 10.0%. The climatic characteristics of this area (Fig. 2), which is characterized by its semi-warm and semi-dry period during the summer and semi-cold period during winter (mean January temperature was  $-1.0^{\circ}\text{C}$ ), caused the high percentage of hemicryptophyta. The high percentage of therophytes sustains the sumediterranean-mediterranean characteristics of lower parts of Mt. Sokolovica flora, while rela-

Table 7. Life form spectrum of the flora of Mt. Sokolovica.

Life form	Species and subspecies	%
<i>Hemicryptophytes</i>	385	49.5
<i>Therophytes</i>	167	21.5
<i>Geophytes</i>	78	10.0
<i>Phanerophytes</i>	62	7.9
<i>Chamaephytes</i>	46	5.9
<i>Climbes and Vines</i>	22	2.8
<i>Parasites, Semiparasites, Saprophytes</i>	16	2.1
<i>Hydrophytes</i>	2	0.3
Total	778	100

tively large number of geophytes is probably associated with the influence of man, especially with the pastoral activities.

Three plant species in Mt. Sokolovica are included in the European Red Lists (ECCN-NR-EC 1983; ECE 1991) under threat category rare (R): *Malosorbus florentina*, *Scabiosa fumarioides*, *Sedum stefco*. About 4.5% (35 plant taxa) of the flora of Mt. Sokolovica is threatened and by applying the new IUCN Red List Categories and Criteria (2001), we can estimate the threatened status for each taxon (Table 8). The analysis shows that there are two critically endangered species (CR), 11 endangered taxa (EN), 12 vul-

Table 8. List of threatened taxa and IUCN threat status in Mt. Sokolovica.

Taxon	IUCN Threat status
<i>Genista subcapitata</i> Pančić	CR
× <i>Malosorbus florentina</i> (Zuccagni) Browicz	CR
<i>Achillea grandifolia</i> Friv.	EN
<i>Allium guttatum</i> subsp. <i>sardoum</i> (Moris) Stearn	EN
<i>Doronicum hungaricum</i> Reichenb. fil.	EN
<i>Hypericum annulatum</i> Moris	EN
<i>Lathyrus inconspicuus</i> L.	EN
<i>Prunus tenella</i> Batsch	EN
<i>Pulmonaria rubra</i> Schott	EN
<i>Pulsatilla montana</i> subsp. <i>balkana</i> (Velen.) Zamels & Paegle	EN
<i>Saxifraga bulbifera</i> L.	EN
<i>Securigera elegans</i> (Pančić) Lassen	EN
<i>Sedum stefco</i> Stefanov	EN
<i>Androsace elongata</i> L.	VU
<i>Dianthus pinifolius</i> subsp. <i>pinifolius</i>	VU
<i>Eryngium palmatum</i> Pančić & Vis.	VU
<i>Gagea bohemica</i> (Zauschner) Schultes & Schultes fil.	VU
<i>Galium divaricatum</i> Pourret ex Lam.	VU
<i>Potentilla chrysantha</i> Trev.	VU
<i>Ranunculus illyricus</i> L.	VU
<i>Ranunculus serbicus</i> Vis.	VU
<i>Scabiosa fumarioides</i> Vis. & Pančić	VU
<i>Sempervivum zeleborii</i> Schott	VU
<i>Symphytum ottomanum</i> Friv.	VU
<i>Trifolium pignantii</i> Fauche & Chaub.	VU
<i>Corylus colurna</i> L.	LR
<i>Orchis coriophora</i> L.	LR
<i>Orchis mascula</i> (L.) L.	LR
<i>Orchis purpurea</i> Hudson	LR
<i>Orchis simia</i> Lam.	LR
<i>Ranunculus psilostachys</i> Griseb.	LR
<i>Stachys cretica</i> subsp. <i>cassia</i> (Boiss.) Rech. fil.	LR
<i>Stachys scardica</i> (Griseb.) Hayek	LR
<i>Trifolium trichopterum</i> Pančić	DD
<i>Trifolium velenovskyi</i> Vandas	DD

nerable taxa, 8 taxa that are of low risk (LR) and two species that are need more data for the estimation (DD).

Particularly interesting is the finding of  $\times$ *Malosorbus florentina* at Mt. Sokolovica. This species was reported only for the Kosovo region (Jovanović 1969, Em & Ristevski 1974, Krasnići 1972) and the surrounding of Niš (Bornmüller 1888, Jurišić 1901). We found an extremely small population of this plant in degraded stands of oak community near the village Rudare in W part of Mt. Sokolovica (Tomović & al. 2003). This population seems to be the largest one in the territory of central Serbia and this habitat should be placed under strict and urgent protection.

The man influence on the flora and vegetation of the investigated area is strong and intensive. The flora and vegetation of this mountain are threatened by development of tourism and hunting, cutting the forest as well as grazing. Therefore the whole area of Sokolovica mountain is of great conservation interest for Serbia and is in the procedure for protecting in the next period. According to Habitat/Species Management Areas (IUCN 2001) it supposed to be included in category No IV: Protected area managed mainly for conservation through management intervention.

Forest vegetation of Mt. Sokolovica, which is defined by the presence of two characteristic alliances (Horvat & al. 1974) *Quercion frainetto* and *Fagion moesiaca*, as well as dominant Moesian and Scardo-Pindhian endemic types, were the main phytogeographic, vegetation and floristic peculiarities which confirmed incorporation of Mt. Sokolovica into the Westmoesian floristic subprovince in the Balkan peninsula.

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