

## **On the flora of the Vikos-Aoos National Park (NW Greece)**

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EFFIE HANLIDOU &amp; STELLA KOKKINI

## On the flora of the Vikos-Aoos National Park (NW Greece)

### Abstract

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An inventory of 466 vascular plant taxa (species and subspecies) from the Vikos-Aoos National Park (NW Greece) is presented, based on recent field work. 187 records are new to the flora of the National Park rising the total number of its vascular plant taxa to c. 800. The principal vegetation patterns are briefly described and their distribution in the area is mapped.

### Introduction

The Vikos-Aoos National Park is located in NW Greece, in the Province (Nomos) of Ioannina, between 39°50' and 40°05'N and 20°50' and 20°55'E. The National Park, established in 1974, covers a total surface of c. 12 600 ha and includes two gorges, Vikos (core area) and Aoos, and part of Mount Timfi.

Within the Park, the villages of Monodendri, Megalo Papingo, Mikro Papingo, Vikos (Vitsiko) and Klidonia are situated around the Vikos gorge. They belong to a group of 40 villages, known under the common name Zagori, and are characterised by an admirable architecture and cultural life. In the past, especially the during the 17th, 18th and 19th centuries, Zagori was a renowned centre of folk medicine. The healers were called vikogiatrī (= doctors that come from the Vikos gorge area) because it is said that they collected their herbals from the Vikos gorge (Ganiatsas 1980, Vokou & al. 1993). A chemical screening of several native plant taxa has shown that a high number of them are characterised by biologically active ingredients (Hanlidou 1996).

A survey of the literature suggests that the National Park's flora is rather fragmentary known. Floristic reports are found in Baldacci (1899), Halácsy (1901–04), Hayek (1924–33), and more recently in Goulimy (1955) and Phitos (1962, 1964). Furthermore, Quézel & Contandriopoulos (1965) report 180 taxa, mainly found in the alpine zone of Mount Timfi, Ganiatsas (1971) enumerates 219 taxa from the Vikos gorge, Polunin (1980), in his appraisal of the area as an outstanding "plant-hunting region", lists c. 150 local vascular plant taxa from Vikos gorge and the alpine area of Timfi, although several of them under misapplied names, and Authier (1988, 1991, 1992, 1993, 1994) adds some taxa rare in or new to Greece. A major contribution to the flora of this area is, finally, provided by the "Mountain flora of Greece" (Strid 1986, Strid & Tan 1991) where 361, mainly alpine taxa are reported. Regarding the natural vegetation of the Vikos-Aoos National Park, the only relevant publication (Quézel 1967) concerns the high

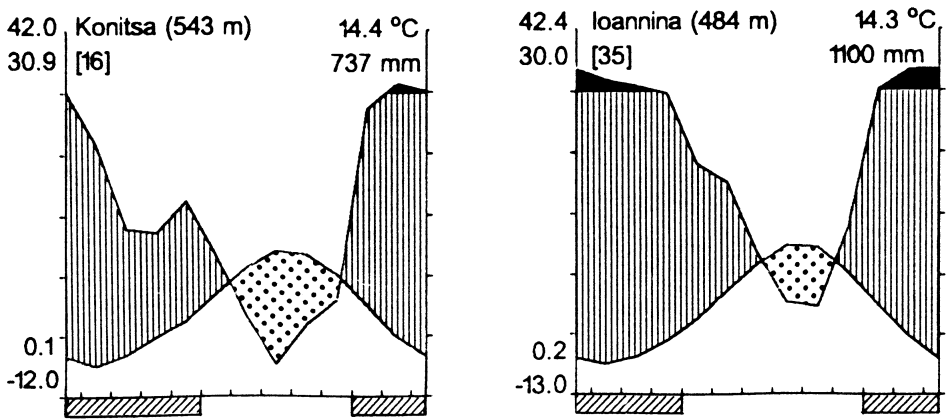


Fig. 1. Climate diagrams of Ioannina and Konitsa (according to Walter & Lieth 1960).

altitudes of Mount Timfi, whereas Bergmeier (1990) has studied the spontaneous-synanthropic vegetation in the villages Mikro Papingo, Megalo Papingo and Vitsiko.

#### Geomorphology, geology and climate

Timfi is a small mountain range situated NW–SE direction. Its highest peaks are Gamila (2497 m), Astraka (2436 m), Ploskos (2400 m), and Lapatos (2251 m). The Vikos gorge is a deep, NW-SE directed section with almost vertical slopes in the Timfi mountain range. A part of it, about 12 km long, between the villages Vitsiko and Monodendri, is included in the National Park. The altitude at its lowest point is c. 400 m, and its depth varies, reaching 1100 m. The gorge is run through by the homonymous stream, dried up during the summer season. The Aoos river runs through the homonymous gorge, enclosed by the mountains Timfi and Trapezitsa. This gorge has an E–W direction, and the part of it included in the National Park is c. 10 km long; its lowest point is at c. 400 m.

The area belongs to the Inner and Central Ionia geotectonic zone and is made up mainly of carbonate rocks. As the Vikos gorge is a deep cross section, its slopes expose a series of rocks of different age. The upper layers consist of limestone formations, the lower of grey dolomite. The Aoos gorge consists mainly of dolomite and the NE and E parts of Timfi (Astraka, Gamila) of limestone. The central part of the National Park consists either of limestone or thin-bedded flysch, formed by alternations of sandstones and clayey marls.

According to Kotini-Zambaka (1983), the Vikos-Aoos area belongs to the northern climatic zone of Greece, which is transitional between the continental and the Mediterranean climates. Since there is no meteorological station inside the National Park, climatic data are taken from the two closest stations, situated near the cities of Ioannina (39°42'N, 20°49'E) and Konitsa (40°03'N, 20°45'E). The mean annual temperature is 14.3 °C in Ioannina and 14.4 °C in Konitsa, which lies to the NW of the Park. The mean annual precipitation is 1100 mm and 737 mm, respectively. The mean monthly precipitation and mean monthly temperature are given in the climatic diagrams of Fig. 1. With respect to Emberger's climatic divisions, modified for Greece by Mavrommatis (1980), the area belongs to the humid climatic zone, with cold winter.

#### Principal vegetation types

The principal vegetation types and their distribution in the Vikos-Aoos National Park are shown in Fig. 2, based mainly on our own observations and additionally on a rough delimitation of forest zones set up by the local Forest Service. A short but vivid general description of the local

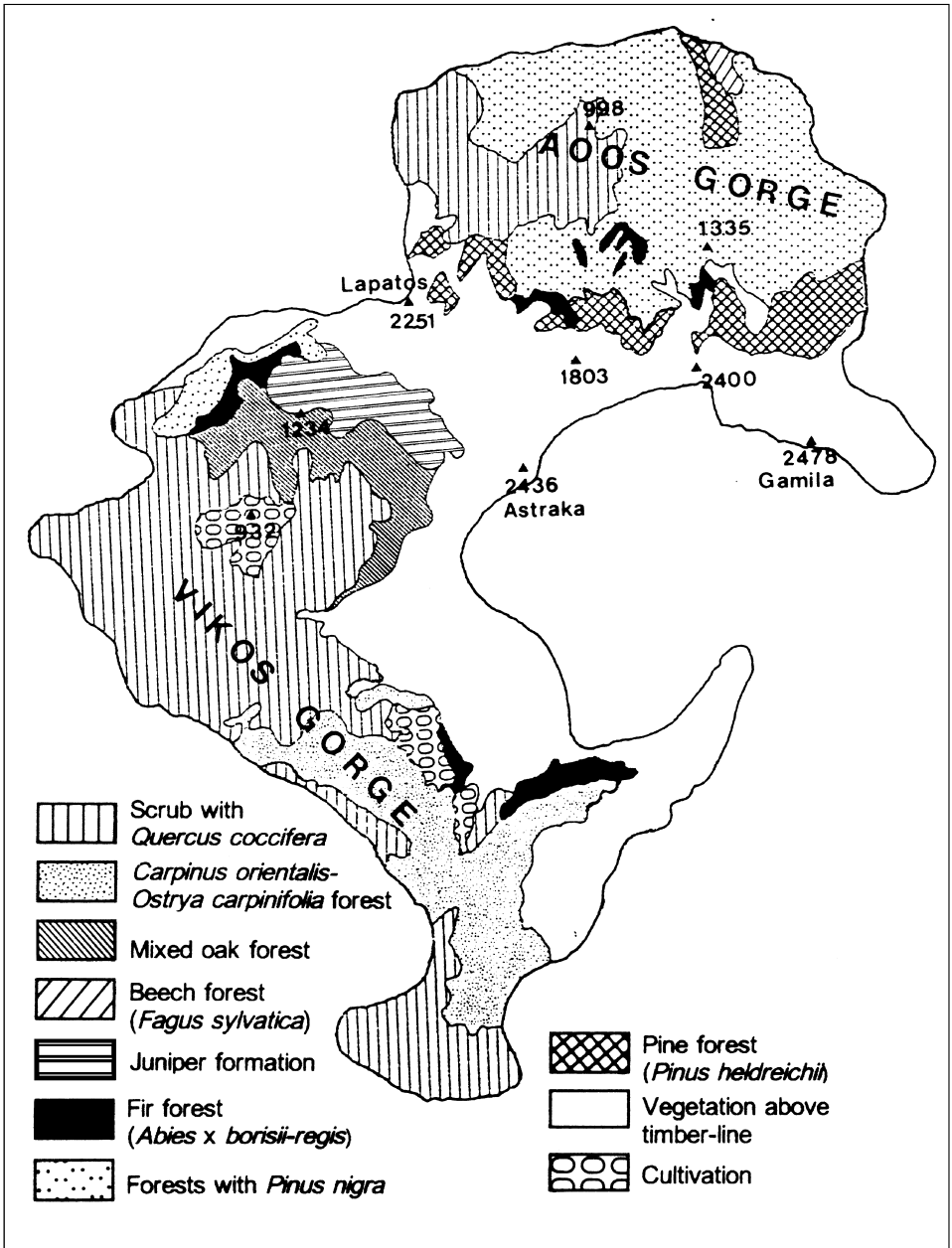


Fig. 2. Vegetation map of the Vikos-Aoos National Park.

plant cover was given by Polunin (1980: 105–108). The following principal vegetation types can be distinguished:

(1) Scrub formation with *Quercus coccifera*: Scrubs characterized by the dominant occurrence of *Q. coccifera* cover a large part of the National Park (Fig. 2). The southwestern slopes of Mt

Timfi are entirely covered by *Q. coccifera* and *Juniperus oxycedrus*, whereas in the Aoos gorge several deciduous woody species, such as *Carpinus orientalis*, *Ostrya carpinifolia*, *Pistacia terebinthus*, *Cotinus coggygria*, *Crataegus* spp., *Paliurus spina-christi*, *Cornus mas*, *Quercus cerris*, *Acer monspessulanum*, *Cercis siliquastrum*, *Sambucus nigra* and *Fraxinus ornus* are found.

On the northwestern slopes of the Vikos gorge (near the villages of Vikos and Papingo), only a few woody species appear with a characteristic creeping form, whereas two shrubby *Labiatae* species, *Phlomis fruticosa* and *Salvia officinalis*, dominate. The former species is a typical element of phryganic ecosystems and its abundance in areas of N Greece is attributed to heavy grazing (Papanastasis 1976); *S. officinalis* (Dalmatian sage) grows natively in the W Balkans and Italy and reaches its southernmost range in our area.

(2) Deciduous forests: (i) A *Carpinus orientalis*–*Ostrya carpinifolia* forest covers the southern part of the Vikos gorge (Fig. 2). Besides these two dominant woody species, other deciduous trees found in this area are *Acer campestre*, *A. pseudoplatanus*, *A. monspessulanum*, *Quercus pubescens*, *Corylus avellana*, *Tilia tomentosa*, and *Fraxinus ornus*. The presence of a few trees of the Balkan paleoendemic *Aesculus hippocastanum* is of special phytogeographical interest (see also Polunin 1980: 105, 107). (ii) A mixed deciduous oak forest, composed of *Quercus cerris*, *Q. frainetto*, *Q. pubescens*, *Acer campestre*, *Corylus avellana*, *Carpinus orientalis*, and *C. betulus*. The oak forest develops above the scrub formation on the S slopes of Mt Timfi (Fig. 2). Both *Q. coccifera* and *Juniperus oxycedrus* penetrate this zone. (iii) *Fagus sylvatica* is occasionally found within the deciduous forests. A pure beech forest covers only a small part on the northern slopes of the Aoos gorge (Fig. 2).

(3) Mixed deciduous-coniferous forest: A gradual transition from the scrub formation to a mixed deciduous-coniferous forest is observed at an altitude of 700–900 m in the central part of the Aoos gorge. The dominant coniferous tree is *Pinus nigra* subsp. *pallasiana* (often forming pure stands), whereas *P. heldreichii* and *Abies xborisii-regis* have a more limited occurrence. A particularly rich variety of deciduous tree species (*Carpinus orientalis*, *C. betulus*, *Quercus cerris*, *Q. pubescens*, *Acer obtusatum*, *A. pseudoplatanus*, *A. campestre*, *Corylus avellana*, *Cornus mas*, *Tilia tomentosa*, *Sorbus torminalis* etc.) is found in this area.

(4) Coniferous forests: Pure fir (*Abies xborisii-regis*) and pine (*Pinus nigra* subsp. *pallasiana*) forests develop mainly on the western slopes of Timfi, between 1200 and 1700 m (Fig. 2). *Pinus heldreichii* trees (Fig. 2) appear at higher altitudes (up to 2000 m), occupying the dry, rocky and steep northern slopes of Mt Timfi.

(5) Juniper formation: On the southern slopes of Mt Timfi the timber-line (1500–1600 m) is formed by two juniper species, *Juniperus foetidissima* and *J. communis* subsp. *alpina* (Fig. 2).

(6) Vegetation above timber-line (subalpine vegetation): A variety of habitats occur above the timber-line of Mt Timfi. The different plant formations found in this area are briefly the following: (i) Cushion formations dominated by *Daphne oleoides*, *Juniperus communis* subsp. *alpina*, *Prunus prostrata*, and *Rosa* spp. (ii) Formations characterized by the dominance of the thorny *Astragalus sirinicus* and *A. creticus* subsp. *rumeliacus*. Other taxa participating in these formations are *Acinus alpinus* subsp. *meridionalis*, *Sideritis raeseri* subsp. *raeseri*, *Thymus boissieri*, and *Malcolmia orsiniana*. (iii) Grasslands, characterized by the dominance of grasses, such as *Alopecurus gerardii* and *Phleum alpinum*. Among the other taxa growing in the grasslands are *Lotus corniculatus*, *Trifolium parnassi*, *Berteroa obliqua*, *Armeria canescens*, and *Hieracium cymosum*. (iv) A few species are found in the fell-fields or screes such as *Drypis spinosa*, *Geranium macrorrhizum*, *Lactuca intricata*, *Thymus leucospermus*, *Minuartia juniperina*, *Achillea abrotanoides*, and *Doronicum columnae*. (v) Typical chasmophytes such as *Silene pusilla* subsp. *tymphaea*, *S. parnassica* subsp. *parnassica*, *Sedum magellense*, and *S. tymphaeum* are found in the rock crevices of the summit area.

The first two plant formations, known as steppelike meadows, belong to the class of Daphno-Festucetea considered by Quézel (1967) the climatic zonal vegetation at the highest altitudes of the S Balkan Peninsula.

(7) Riparian woody vegetation: This type of vegetation (not shown in Fig. 2) is found in the two gorges, where it is restricted to a narrow zone along the riversides, dominated by *Platanus orientalis*, *Alnus glutinosa*, *Salix* spp. and *Tamarix* spp.

#### Flora

Our field work resulted in the collection of 466 vascular plant taxa. Of these, 187 are new records for the flora of the National Park. As the alpine flora is well studied, our additions refer mainly to lowland taxa. Together with the previously published data (Authier 1988, 1991, 1992, 1993, 1994, Ganiatsas 1971, Phitos 1962, 1964, Polunin 1980, Quézel & Contandriopoulos 1965, Strid 1986, Strid & Tan 1991), now c. 800 vascular plant taxa are known to occur in the National Park.

#### Material and methods

Our floristic catalogue is based on specimens collected by the first author, accompanied by S. Kokkini or K. Katradi. The material is deposited in the Herbarium of the Institute of Systematic Botany and Phytogeography of the University of Thessaloniki (TAU). A few entries are based only on observations in the field. Families, genera and species are arranged alphabetically within the four major taxonomic units, viz. *Pteridophyta*, *Gymnospermae*, *Dicotyledoneae* and *Monocotyledoneae*.

The vegetation map given in Fig. 2, is based mainly on our own observations and additionally on a rough zone delimitation by the local Forest Service.

The author's collecting localities, given by numbers in the catalogue (see also Fig. 3), and the corresponding collecting data are as follows:

- 1a: S part of Vikos gorge, 700–1200 m, *Ostrya carpinifolia*-*Carpinus orientalis* forest: 6.9.1987; 15.5.1988; 15.–17.6.1988; 14. & 16.8.1988; 7. & 9.9.1988; 25.10.1988; 18.4.1989; 3., 6., 11. & 16.6.1989; 14. & 17.7.1989; 29.8.1989; 8.9.1989; 20.7.1990.
- 1b: W slopes of the northern part of Vikos gorge, 600–1000 m, scrub with *Quercus coccifera*: 6.9.1987, 6., 15., 18. & 21.6.1988; 14.8.1988; 7.9.1988; 18.4.1989; 6. & 11.6.1989; 17. & 21.7.1989; 1.9.1989.
- 1c: E slopes of the northern part of Vikos gorge, 500–900 m, formation of *Phlomis fruticosa* and *Salvia officinalis*: 6.9.1987; 15. & 21.6.1988; 8.7.1988; 14.8.1988; 7.9.1988; 30.10.1988; 18.6.1989; 9.7.1989.
- 2a: W part of Aoos gorge, from Konitsa to Moni Stomiou (monastery), 450–900 m, scrub with *Quercus coccifera*: 9.5.1988; 5. & 23.6.1988; 5. & 8.9.1988; 20.4.1989; 13.6.1989; 15.7.1989; 5. & 20.9.1989.
- 2b: E part of Aoos gorge, 900–1500 m, coniferous-deciduous forest: 5. & 23.6.1988; 5. & 8.9.1988; 20.4.1989; 13.6.1989; 15.7.1989; 5. & 20.9.1989; 18.7.1990.
- 3: Between the villages Megalo Papingo and Klidonia, 900–1000 m, scrub with *Quercus coccifera*: 9.7.1988; 14.4.1989; 10. & 14.6.1989; 9.7.1989.
- 4a: From the village of Megalo Papingo to the peak of Lapatos, 900–1500 m, scrub with *Quercus coccifera* and deciduous oak forest: 7.6.1989; 22.7.1989.
- 4b: idem, 1500–2100 m, above timber-line: 7.6.1989; 22.7.1989.
- 5a: Along the path from the village of Mikro Papingo to the peak Gamila, 900–1500 m, deciduous forest and Juniper formation: 25.7.1988; 11.9.1988; 9.5.1989; 9.6.1989.
- 5b: Around EOS Refuge, Astraka and lake of Drakolimni, 1500–2300 m, meadows above timber-line: 19.6.1988; 11.9.1988; 24.7.1989; 25.7.1990.

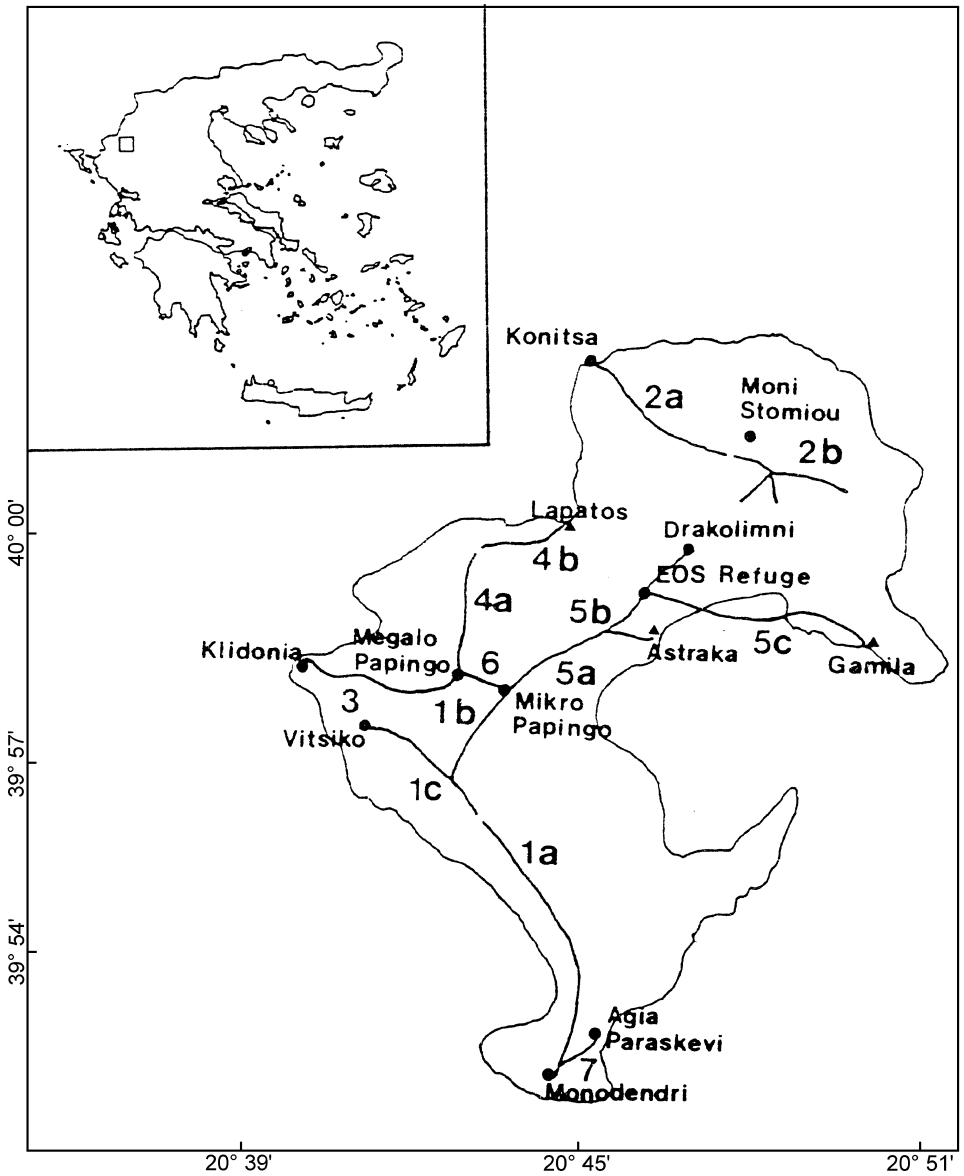


Fig. 3. Map of the Vikos-Aoos National Park showing the collection localities (for explanations, see text).

- 5c: From the EOS Refuge to the peak of Gamila, 1850–2497 m, meadows above timber-line: 7. & 25.7.1988; 9. & 16.6.1989; 24. & 25.7.1989; 6.9.1989; 25.7.1990.
- 6: Along the road from Megalo Papingo to Mikro Papingo, ruderal vegetation: 10. & 18.6.1988; 29.10.1988; 16.4.1989; 10.6.1989; 23.7.1989; 2.8.1989; 2.9.1989.
- 7: Along the road from the village of Monodendri to the monastery of Agia Paraskevi, *Quercus coccifera* scrub formation, ruderal vegetation: 29.4.1988; 5. & 6.7.1988; 9.9.1988; 17., 19. & 29.4.1989; 2. & 4.6.1989; 15. & 18.7.1989; 29.8.1989.

The following abbreviations are used in the floristic catalogue:

- H = E. Hanlidou  
 KA = K. Katradi  
 KO = S. Kokkini  
 obs. = observation only, no herbarium specimen.

Unless otherwise stated the taxonomy and nomenclature follows the “Mountain flora of Greece” (Strid 1986, Strid & Tan 1991) for the taxa included there, and “Flora europaea” (Tutin & al. 1968–80, 1993). New records for the flora of the National Park are marked with a dot.

## Floristic catalogue

### *Pteridophyta*

#### *Adiantaceae*

*Adiantum capillus-veneris* L. – H & KA 2499: 1a.

#### *Aspidiaceae*

*Dryopteris villarii* Schinz & Thell. – H & KA 3252: 1a.

#### *Aspleniaceae*

*Asplenium trichomanes* subsp. *inexpectans* Lovis – H & KA 3214: 2a.

*Ceterach officinarum* DC. – 1a, 2b, 3 (obs.).

*Phyllitis scolopendrium* (L.) Newman – 2b (obs.).

#### *Equisetaceae*

*Equisetum palustre* L. – H & KA 2125: 1b.

### *Gymnospermae*

#### *Cupressaceae*

*Juniperus communis* subsp. *alpina* (Sm.) Čelak. – H & KA 2475: 1a, H & KA 2533: 1c.

*J. foetidissima* Willd. – H & KA 2534: 5c; 4a (obs.).

*J. oxycedrus* L. subsp. *oxycedrus* – H & KA 2476: 1c; 1a, 2a, 3, 4a, 5a (obs.).

#### *Ephedraceae*

*Ephedra foeminea* Forssk. – H & KA 2055: 7.

#### *Pinaceae*

*Abies xborisii-regis* Mattf. – H 2079: 2b; 4b (obs.).

*Pinus heldreichii* Christ – H 2425: 2b; 4b (obs.).

*P. nigra* subsp. *pallasiana* (Lamb.) Holmboe – H 2078: 2b; 4b (obs.).

#### *Taxaceae*

- *Taxus baccata* L. – 2b (obs.).

### *Dicotyledoneae*

#### *Acanthaceae*

*Acanthus balcanicus* Heywood & I.B.K. Richardson – H & KA 2100: 1a.

*A. spinosus* L. – H 3330: 6.

#### *Aceraceae*

*Acer campestre* L. – H & KA 2470: 1a, H & KA 2471: 1c, H & KA 2530: 5a.

*A. monspessulanum* L. – H & KA 2502: 1a.

*A. opalus* subsp. *obtusatum* Willd. – H & KA 1440: 2b.

*A. pseudoplatanus* L. – 1a (obs.).



**Anacardiaceae**

- *Cotinus coggygria* Scop. – *H* 3461: 2a.
- *Pistacia terebinthus* L. – *H* & *KA* 2503: 1c; 2a (obs.).

**Araliaceae**

*Hedera helix* L. – 1a, 2b (obs.).

**Betulaceae**

*Alnus glutinosa* (L.) Gaertn. – *H* & *KO* 2401: 1c, *H* 3462: 2a.

**Boraginaceae**

- *Anchusa cretica* Mill. – *H* & *KA* 2807: 1c, *H* & *KA* 3121: 3.
- *A. undulata* subsp. *hybrida* (Ten.) Cout. – *H* & *KA* 2586: 3, *H* & *KA* 2621: 6, *H* 3150: 7.
- *A. azurea* Mill. – *H* & *KO* 2340: 6.
- *A. officinalis* L. – *H* & *KA* 2905: 4a, *H* & *KA* 2780: 7; 3, 6 (obs.).
- *Asperugo procumbens* L. – *H* & *KA* 3063: 6.
- Buglossoides arvensis* subsp. *gasparrinii* (Guss.) R. Fern. – *H* & *KA* 2906: 4b.
- *Cynoglossum columnae* Ten. – *H* & *KA* 2622 : 6, *H* & *KA* 2781: 7.
- Cynoglossis barellieri* subsp. *serpenticola* (Rech. f.) Vural & Kit Tan – *H* & *KA* 2907: 4b, *H* & *KA* 2201: 5c.
- *Echium italicum* L. – *H* & *KA* 3123: 1c.
- *E. vulgare* L. – *H* & *KA* 2104: 1c.
- *Heliotropium europaeum* L. – *H* & *KA* 2083: 1c.
- Lithospermum purpureocaeruleum* L. – *H* & *KA* 2587: 3.
- Onosma epiroticum* Teppner – *H* & *KA* 3102: 2a.
- *O. heterophyllum* Griseb. – *H* & *KA* 3103: 2a.
- *Symphytum bulbosum* Schimp. – *H* & *KA* 2623: 6.
- S. ottomanum* Friv. – *H* & *KA* 2650: 7.

**Buxaceae**

- *Buxus sempervirens* L. – *H* & *KA* 2687: 2a.

**Campanulaceae**

- Asyneuma limonifolium* (L.) Janchen – *H* & *KA* 2755: 1a, *H* 3337: 4b, *H* 3354: 5b.
- Campanula glomerata* L. – *H* 3355: 5b, *H* 3393: 5c.
- C. hawkinsiana* Hausskn. & Heldr. – *H* & *KA* 2908: 4b.
- C. ramosissima* Sm. – *H* 3243: 1a, *H* 3268: 1c, *H* & *KA* 2734: 7.
- C. rotundifolia* L. – *H* 3356: 5b.
- *C. sparsa* subsp. *sphaerotherix* (Griseb.) Hayek – *H* 3163: 2b.
  - *C. trachelium* subsp. *athoa* (Boiss. & Heldr.) Hayek – *H* 3183: 2b.
- C. versicolor* Andrews – *H* & *KA* 2472: 1c.
- *Legousia speculum-veneris* (L.) Chaix – *H* & *KA* 2756: 1a.

**Caprifoliaceae**

- *Lonicera caprifolium* L. – *H* & *KA* 2688: 2b.
- L. etrusca* G. Santi – *H* & *KA* 2910: 4a.
- Sambucus ebulus* L. – 2b (obs.).
- S. nigra* L. – *H* & *KO* 2341: 6.

**Caryophyllaceae**

- Arenaria serpyllifolia* L. – *H* & *KA* 3080: 1c.
- Cerastium brachypetalum* Pers. – *H* & *KA* 2911: 4a.
- C. decalvans* Schloss. & Vuk. – *H* & *KA* 2106: 1c, *H* & *KA* 2689: 2a, *H* & *KA* 2581: 4a, *H* 3357: 5b.
- C. fontanum* subsp. *vulgare* (Hartman) Greuter & Burdet – *H* & *KA* 2912: 4a.

*Dianthus cruentus* Griseb. – *H* 3289: 4b.

*D. integer* subsp. *minutiflorus* (Halácsy) Bornm. – *H* 3358: 4b, *H* 3394: 5b.

*D. sylvestris* Wulfen – *H* 3244: 1a, *H* 3269: 1c, *H* 3184: 2b, *H* 3299: 4.

*Drypis spinosa* L. – *H* & *KA* 3300: 4b, *H* & *KA* 3141: 5c.

- *Lychnis coronaria* (L.) Desr. – *H* & *KA* 2153: 1a.

*Minuartia juniperina* (L.) Maire & Petitm. – *H* & *KA* 2913: 4b, *H* 3359: 5b.

- *M. verna* (L.) Hiern – *H* & *KA* 2690: 2a, *H* & *KA* 2735: 7.

- *Paronychia cephalotes* (M. Bieb.) Besser – *H* & *KA* 2914: 4b.

- *Petrorragia prolifera* (L.) P.W. Ball & Heywood – *H* & *KA* 2473: 1b, *H* 3270: 1c, *H* & *KA* 2736: 7.

*P. saxifraga* (L.) Link – *H* 3271: 1c, *H* & *KA* 3064: 3 *H* 3301: 4b.

*Saponaria calabrica* Guss. – *H* & *KA* 2050: 7.

- *S. glutinosa* M. Bieb. – *H* & *KO* 2342: 1c.

- *S. officinalis* L. – *H* 3202: 2b.

*Silene caesia* Sm. – *H* & *KA* 2202: 5c.

*S. pusilla* subsp. *tymphaea* Greuter – *H* 3501: 5c. – Taxonomy according to Greuter (1995: 132).

*S. fabarioides* Hausskn. – *H* & *KA* 3065: 5a.

*S. graeca* Boiss. & Spruner – *H* & *KA* 2809: 1c.

*S. italica* (L.) Pers. subsp. *italica* – *H* & *KA* 2302: 5a. – Taxonomy according to Greuter (1995: 109).

*S. nutans* L. subsp. *nutans* – *H* 3185: 2b.

*S. parnassica* Boiss. & Spruner subsp. *paranassica* – *H* 3302: 4b, *H* 3360: 5b, *H* 3395: 5c. – Taxonomy according to Greuter (1995: 129).

*S. latifolia* subsp. *alba* (Mill.) Greuter & Burdet – *H* & *KA* 2107: 1a.

*S. roemerii* subsp. *macrocarpa* (Vandas) Greuter – *H* 3396: 5c. – Taxonomy according to Greuter (1995: 119).

- *S. ungeri* Fenzl – *H* & *KA* 2810: 1c, *H* & *KA* 2916: 4b, *H* & *KA* 3010: 5a, *H* & *KA* 2737: 7.

*S. vulgaris* subsp. *commutata* (Guss.) Hayek – *H* & *KA* 3122: 1c, *H* 3186: 2b, *H* & *KA* 2652: 7.

*Spergularia rubra* (L.) J. Presl & C. Presl – *H* & *KA* 3002: 5a.

- *Stellaria media* (L.) Vill. – *H* & *KA* 2653: 7.

- *Velezia rigida* L. – *H* & *KA* 2654: 7.

### **Celastraceae**

*Euonymus latifolius* (L.) Mill. – 3, 6 (obs.).

### **Chenopodiaceae**

- *Chenopodium botrys* L. – *H* & *KA* 2570: 1b, *H* 3203: 2a; 6 (obs.).

### **Cistaceae**

- *Cistus incanus* subsp. *creticus* (L.) Heywood – *H* & *KA* 2811: 1c, *H* & *KA* 2588: 3.

*Helianthemum nummularium* (L.) Mill. – *H* & *KA* 2161: 1a, *H* & *KA* 2589: 3.

### **Cornaceae**

*Cornus mas* L. – 1a, 1c, 2b (obs.).

*C. sanguinea* L. – *H* & *KA* 2813: 1a.

### **Corylaceae**

*Carpinus betulus* L. – *H* & *KA* 2527: 1a.

*C. orientalis* Mill. – *H* & *KA* 2109: 1a, *H* & *KA* 2444: 2a; 1b, 1c, 2b, 3, 4a, 5a, 6, 7 (obs.).

*Corylus avellana* L. – *H* & *KA* 2474: 1a, *H* & *KA* 2445: 2b, *H* & *KA* 2531: 5a.

*Ostrya carpinifolia* Scop. – *H* & *KA* 2504: 1a, *H* & *KA* 2446: 2b, *H* & *KA* 2532: 5a; 1b, 1c, 3, 4a, 6, 7 (obs.).

**Compositae**

- Achillea abrotanoides* (Vis.) Vis. – H & KA 2250: 2b, H & KO 2330: 5c.  
*A. fraasii* Sch. Bip. – H & KA 2902: 4b, H 3351: 5b, H 3391: 5c.  
 • *A. grandifolia* Friv. – H & KA 2071: 1a.  
*A. holosericea* Sm. – H & KA 2751: 1c, H 3352: 5b.  
 • *A. millefolium* L. – H 3504: 5b, H 3500: 7.  
*A. setacea* Waldst. & Kit. – H & KO 2400: near the village Vradeto.  
*Anthemis arvensis* L. – H 3264: 1b, H & KA 2903: 4b.  
*A. cf. austriaca* Jacq. – H & KA 2103: 1c, H & KA 3101: 2b, H & KA 3061: 3, H & KA 3007: 5a.  
*A. cretica* subsp. *carpatica* (Willd.) Grierson – H 3410: 5c.  
*Artemisia absinthium* L. – H & KA 2230: 1c, H & KA 2251: 2b.  
*A. alba* Turra – H & KO 2430: 1a, H 3513: 2a.  
 • *A. campestris* L. – H 3443: 1a.  
 • *A. vulgaris* – H 3443: 6.  
 • *Bellis perennis* L. – H & KA 2700: 2a, H & KA 2585: 3.  
*Carlina vulgaris* subsp. *intermedia* (Schur) Hayek – H 3463: 5c.  
*Centaurea cyanus* L. – H & KO 2436: 1a, H & KA 2729: 7.  
*C. epirota* Halácsy – H & KA 2200: 5c, H & KO 2422: 5a.  
*C. pawlowskii* Phitos & Damboldt – H & KA 2730: 7.  
 • *C. solstitialis* L. subsp. *solstitialis* – H 3265: 1c.  
 • *C. tymphaea* Hausskn. – H 3292: 4b, H 3336: 6.  
 • *C. zuccariniana* DC. – H & KO 2370: 3, H 3230: 7.  
*Cichorium intybus* L. – 1c, 6, 7 (obs.).  
*Crepis dioscoridis* L. – H & KA 2752: 1a, H & KA 2803: 1c, H & KA 2731: 7.  
*C. neglecta* L. – H & KA 2804: 1c.  
 • *C. rubra* L. – H & KA 2805: 1c.  
 • *Crupina vulgaris* Cass. – H & KA 3062: 3, H & KA 2732: 7.  
*Doronicum columnae* Ten. – H & KA 3008: 6, H & KA 2620: 7, H & KA 2710: 5c.  
 • *Eupatorium cannabinum* L. subsp. *cannabinum* – H & KA 2441: 2b.  
*Hieracium cymosum* subsp. *heldreichianum* Nägeli & Peter – H 3266: 5c.  
*Hypochaeris cretensis* (L.) Bory & Chaub. – H 3293: 4a.  
 • *Inula conyza* DC. – H & KO 2431: 1c, H 3441: 6.  
*I. oculus-christi* L. – H & KA 2181: 1c; 3, 5a (obs.).  
*Lactuca intricata* Boiss. – H 3294: 4b, H 3392: 5c.  
 • *L. viminea* (L.) J. Presl & C. Presl – H 3450: 1c, H 3444: 6; 7 (obs.).  
*Leontodon crispus* Vill. subsp. *crispus* – H & KA 2753: 1a, H & KA 2806: 1c, H & KA 2904: 4a, H & KA 2733: 7.  
*L. crispus* subsp. *asper* (Waldst. & Kit.) Rohlena – H 3353: 5b.  
 • *Leucanthemum vulgare* Lam. – H & KO 2421: 2b.  
*Mycelis muralis* (L.) Dumort. – H & KA 2754: 1a.  
 • *Onopordum bracteatum* Boiss. & Heldr. – H 3238: 7; 6 (obs.).  
*Petasites hybridus* (L.) P. Gaertn. & al. subsp. *hybridus* – H & KA 2687: 2a; 2b (obs.).  
 • *Ptilostemon afer* (Jacq.) Greuter – H 3241: 1a, H 3295: 4b.  
 • *Scolymus hispanicus* L. – 6 (obs.).  
*Senecio ovatus* (P. Gaertn. & al.) Willd. – H 3503: 5c.  
*S. squalidus* L. – H 3296: 4b.  
*Solidago virgaurea* L. – H & KO 2432: 1a, H & KA 2442: 2b.  
*Staehelina uniflosculosa* Sm. – H & KA 2081: 2b.  
*Telekia speciosa* (Schreb.) Baumg. – H 3242: 1c.  
 • *Xeranthemum annuum* L. – H 3267: 1c.

**Convolvulaceae**

*Calystegia silvatica* (Kit.) Griseb. – *H* & *KA* 2108: 1a, *H* & *KA* 3105: 2a.

- *Convolvulus althaeoides* L. – *H* & *KA* 2738: 7.
- *C. arvensis* L. – *H* 3245: 1a, *H* & *KA* 3011: 5a.
- C. cantabrica* L. – *H* & *KA* 2757: 1a, *H* & *KA* 2812: 1c.

**Crassulaceae**

*Sedum acre* L. – *H* & *KA* 2110: 1c, *H* 3361: 5b, *H* & *KA* 3066: 6, *H* 3231: 7.

- *S. album* L. – *H* & *KO* 2402: 5c, *H* 3232: 7.
- *S. amplexicaule* subsp. *tenuifolium* (Sm.) Greuter – *H* 3303: 4b.
- S. cepaea* L. – *H* 3160: 1a, *H* 3272: 1b.
- S. dasyphyllum* L. – *H* 3397: 3, *H* & *KA* 3067: 5c.
- S. hispanicum* L. – *H* & *KA* 2815: 1c, *H* 3304: 4b, *H* 3398: 5c; 3, 7 (obs.).
- S. magellense* Ten. – *H* 3411: 5c.
- S. rubens* L. – *H* & *KA* 3081: 1c, *H* & *KA* 3130: 5c, *H* 3233: 7.
- S. tymphaeum* Quézel & Contandr. – *H* 3362: 5b.
- S. urvillei* DC. – *H* & *KA* 2252: 2a, *H* 3305: 4b.
- Umbilicus erectus* DC. – *H* & *KO* 2310: 7.

**Cruciferae**

- *Alliaria petiolata* (M. Bieb.) Carava & Grande – *H* & *KA* 2624: 6; 5c (obs.).
- Alyssum montanum* subsp. *repens* (Baumg.) Baumg. – *H* & *KA* 2808: 1c, *H* & *KA* 2625: 6; 2a, 3 (obs.).
- Aubrieta scardica* (Wettst.) Gustavsson – *H* & *KA* 2301: 5c.
- Aurinia saxatilis* subsp. *orientalis* (Ard.) Dudley – *H* & *KA* 2651: 7; 1b (obs.).
- *Berteroa obliqua* (Sm.) DC. – *H* & *KA* 3027: 5c.
- *Bunias erucago* L. – *H* & *KA* 3090: 1c.
- Capsella bursa-pastoris* (L.) Medik. – 2a, 3, 4a, 5a, 5c, 6, 7 (obs.).
- Fibigia eriocarpa* (DC.) Boiss. – *H* & *KA* 2160: 1a.
- *Lunaria annua* subsp. *pachyrhiza* (Borbás) Hayek – *H* & *KA* 2632: 6.
- Malcolmia orsiniana* subsp. *angulifolia* (Boiss. & Orph.) Stork – *H* 3297: 4b; 5c (obs.).

**Cucurbitaceae**

*Bryonia cretica* L. – *H* & *KA* 2739: 7.

**Dipsacaceae**

- *Cephalaria ambrosioides* (Sm.) Roem. & Schult. – *H* 3234: 7; 1b (obs.).
- *Knautia integrifolia* (L.) Bertol. – *H* & *KA* 2111: 1a, *H* & *KA* 2816: 1b, *H* & *KA* 2740: 7.
- Pterocephalus papposus* (L.) Coult. – *H* 3204: 2a.
- P. perennis* subsp. *bellidifolius* (Boiss.) Vierh. – *H* & *KA* 2253: 2a.
- *Scabiosa columbaria* subsp. *ochroleuca* (L.) Čelak. – *H* 3306: 4a, *H* & *KO* 2331: 5c; 3 (obs.).
- S. crenata* Cyr. subsp. *crenata* – *H* & *KA* 2917: 5a; 3 (obs.).
- *S. tenuis* Boiss. – *H* & *KA* 2154: 1a, *H* & *KA* 2817: 1c, *H* 3307: 5a, *H* 3235: 7.
- *S. triniifolia* Friv. – *H* & *KA* 3106: 2a.

**Euphorbiaceae**

- *Euphorbia amygdaloides* L. subsp. *amygdaloides* – *H* 3465: 2b.
- *E. characias* subsp. *wulfenii* (Koch) A.R. Sm. – *H* & *KA* 2772: 1a.
- *E. helioscopia* L. – 3 (obs.).
- *E. myrsinites* L. subsp. *myrsinites* – *H* & *KA* 2670: 1c, *H* & *KA* 2691: 2a, *H* & *KA* 3012: 5c, *H* & *KA* 2590: 6, *H* & *KA* 2051: 7; 3 (obs.).
- *E. seguierana* subsp. *niciana* (Borbás) Rech. f. – *H* 3187: 2a, *H* 3188: 2b, *H* 3151: 3.

**Fagaceae**

- Fagus sylvatica* L. – *H* 2437: 1a; 2b (obs.).  
*Quercus cerris* L. – *H* 2528: 5a; 4a (obs.).  
*Q. coccifera* L. – *H* 2236: 1b; 1c, 3, 4a, 5a, 6, 7 (obs.).  
*Q. frainetto* Ten. – *H* 3377: 5a; 2a (obs.).  
*Q. pubescens* Willd. – *H* 3378: 5a; 1a, 2a, 2b, 4a, 5a (obs.).  
*Q. trojana* P.B. Webb – *H* 3483: 2a.

**Gentianaceae**

- *Centaureum erythraea* Rafn – *H* & *KA* 3205: 2b, *H* & *KO* 2372: 3.
  - *Gentiana cruciata* L. – *H* 3193: 2b.
- G. verna* subsp. *balcanica* N. M. Pritch. – *H* & *KA* 3015: 5c.

**Geraniaceae**

- *Erodium acaule* (L.) Bech. & Thell. – *H* & *KA* 2671: 1a, *H* & *KA* 2626: 6, *H* & *KA* 2672: 7.
  - *E. ciconium* (L.) L'Hér. – *H* & *KA* 2819: 1c.
- Geranium lucidum* L. – *H* & *KA* 2820: 1c, *H* 3470: 2a, *H* & *KA* 2782: 7.  
*G. macrorrhizum* L. – *H* & *KA* 2114: 1a, *H* & *KA* 2924: 4b, *H* & *KA* 2658: 7; 5c (obs.).  
 • *G. macrostylum* Boiss. – *H* & *KA* 2925: 4b, *H* & *KA* 3016: 5c.  
 • *G. molle* subsp. *brutium* (Gasparr.) Graebn. – *H* & *KA* 2610: 6, *H* & *KA* 2783: 7; 3 (obs.).  
*G. purpureum* Vill. – *H* 3464: 1a, *H* 3246: 2b.  
 • *G. pusillum* Burm. f. – *H* & *KA* 2926: 4b.  
 • *G. rotundifolium* L. – *H* & *KA* 2927: 4b.  
*G. subcaulescens* DC. – *H* & *KA* 2928: 4b.  
 • *G. versicolor* L. – *H* & *KA* 2115: 1a.

**Gesneriaceae**

- Ramonda serbica* Pančić – 1a, 1b, 1c, 2a (obs.).

**Globulariaceae**

- Globularia cordifolia* L. – *H* & *KA* 2203: 5c.

**Guttiferae**

- Hypericum perforatum* L. – *H* & *KA* 2182: 1a, *H* & *KA* 2255: 2b, *H* & *KA* 2183: 6.  
*H. rumeliacum* subsp. *apollinis* (Boiss. & Heldr.) Robson & Strid – *H* & *KA* 2693: 2a, *H* & *KA* 2204: 5c.  
*H. spruneri* Boiss. – *H* & *KA* 2073: 1.

**Hippocastanaceae**

- Aesculus hippocastanum* L. – 1a, 2b (obs.).

**Juglandaceae**

- Juglans regia* L. – 1b, 1c, 3 (obs.).

**Labiatae**

- Acinos alpinus* subsp. *majoranifolius* (Mill.) P.W. Ball – *H* & *KA* 2256: 2b.  
*A. alpinus* subsp. *meridionalis* (Nyman) P.W. Ball – *H* 3308: 4b, *H* 3364: 5b, *H* & *KA* 2205: 5c.  
 • *A. suaveolens* (Sm.) G. Don – *H* 3161: 1a, *H* & *KA* 2821: 1c, *H* & *KA* 3070: 6, *H* & *KA* 2743: 7.  
 • *Ajuga chamaepitys* L. subsp. *chamaepitys* – *H* & *KA* 2596: 3, *H* & *KA* 2659: 7.  
 • *A. orientalis* L. – *H* & *KA* 2627: 6, *H* & *KA* 2052: 7.  
 • *A. reptans* L. – *H* & *KA* 2628: 5a.  
 • *Ballota nigra* subsp. *sericea* (Vandas) Patzak – *H* & *KA* 3071: 1c.  
 • *Calamintha grandiflora* (L.) Moench – *H* & *KA* 2231: 1a, *H* & *KA* 2257: 2b.  
 • *C. nepeta* (L.) Savi subsp. *nepeta* – *H* & *KA* 2448: 2a.  
 • *C. sylvatica* Bromf. subsp. *sylvatica* – *H* & *KA* 2003: 1a, *H* & *KA* 2449: 2b.

- *Lamium bifidum* Cyr. subsp. *bifidum* – H & KA 2711: 6.
- L. garganicum* subsp. *laevigatum* Arcang. – H 2116: 1c.
- L. garganicum* subsp. *pictum* (Boiss. & Heldr.) P.W. Ball – H & KA 2536: 5c.
- *L. maculatum* L. – H & KA 2611: 6.
- Leonurus cardiaca* L. – H & KA 2163: 7.
- *Marrubium peregrinum* L. – H & KA 2004: 1b, H & KO 2373: 3.
- *M. vulgare* L. – H & KA 2005: 1b, H & KA 2164: 7.
- Melissa officinalis* subsp. *altissima* (Sm.) Arcang. – H & KA 2006: 1a, H 3207: 2a, H 3152: 3.
- Melittis melissophyllum* subsp. *albida* (Guss.) P.W. Ball – H & KA 2762: 1a, H & KA 2660: 7.
- Mentha longifolia* (L.) L. subsp. *longifolia* – KO 3645: 5b.
- M. longifolia* subsp. *petiolata* (Boiss.) Kokkini – H & KA 2001: 5a. – Taxonomy according to Kokkini (1983: 82).
- M. spicata* L. – H & KA 2007: 1b, H 3512: 3, H 3454: 6.
- *Micromeria cremnophila* Boiss. & Heldr. – H & KA 2117: 1a, H & KA 2571: 1b, H & KA 2258: 2a.
- M. juliana* (L.) Reichenb. – H & KA 2232: 1c, H & KA 2259: 2a, H & KA 3072: 3.
- *Nepeta argolica* subsp. *malacotrichos* Baden – H & KA 2010: 2a.
- N. spruneri* Boiss. – H & KO 2434: 1c, H & KO 2374: 3, H 3309: 4a, H 3495: 5c.
- *Origanum vulgare* subsp. *hirtum* (Link) Ietswaart – H 3247: 1a.
- *O. vulgare* subsp. *viridulum* (Martin-Donos) Nyman – H 3491: 1a, H & KA 2233: 1b, H & KA 3480: 2a, H & KO 2343: 6.
- *O. vulgare* L. subsp. *vulgare* – H 3481: 2b.
- *Phlomis fruticosa* L. – H & KO 2375: 1b; 1c, 2a, 3, 7 (obs.).
- *Prunella laciniata* (L.) L. – H & KA 3083: 1c, H & KA 2184: 6.
- P. vulgaris* L. – H & KA 2118: 1c, H & KA 3073: 6, H & KA 2744: 7.
- *Salvia amplexicaulis* Lam. – H & KA 2185: 6.
- S. argentea* L. – H & KA 2206: 5c.
- S. glutinosa* L. – H & KO 2435: 1a, H 3194: 2b.
- S. officinalis* L. – H & KA 2008: 1b; 1a, 2a (obs.).
- S. sclarea* L. – H & KA 2119: 1a, H & KA 3195: 2b, H & KA 2186: 6.
- *S. viridis* L. – H & KA 3074: 3.
- S. virgata* Jacq. – H & KA 2822: 6.
- *Satureja horvatii* subsp. *macrophylla* (Halácsy) Baden – H & KA 3260: 5a, H & KA 3496: 5c.
- S. montana* L. subsp. *montana* – H & KA 2506: 1a.
- Scutellaria alpina* L. subsp. *alpina* – H 3400: 5c.
- S. columnae* All. subsp. *columnae* – H 3248: 1a, H & KA 2120: 1c, H 3196: 2a.
- S. rupestris* subsp. *adenotricha* (Boiss. & Heldr.) Greuter & Burdet – H & KA 2121: 1a, H & KA 3084: 1c, H 3310: 2b, H & KA 2745: 7.
- Sideritis montana* L. subsp. *montana* – H & KA 2187: 1c.
- S. raeseri* Boiss. & Heldr. subsp. *raeseri* – H 3311: 4b, H & KA 2207: 5c.
- *Stachys annua* L. subsp. *annua* – H & KA 2260: 2b, H & KA 2165: 7.
- *S. cretica* subsp. *bulgarica* Rech. f. – H & KA 2746: 7.
- *S. germanica* subsp. *heldreichii* (Boiss.) Hayek – H & KA 2823: 1c, H & KA 2188: 6, H & KA 2166: 7.
- S. mentifolia* Vis. – H & KA 2072: 1a.
- S. tymphaea* Hausskn. – H 3365: 5b, H 3401: 5c.
- Teucrium capitatum* L. – H 3261: 1c, H & KO 2376: 3, H & KA 2167: 7.
- T. chamaedrys* L. subsp. *chamaedrys* – H & KA 3085: 1c, H & KA 3075: 3, H & KA 2189: 6, H & KA 2560: 7.
- *T. flavum* subsp. *hellenicum* Rech. f. – H & KA 2450: 2a, H 3208: 7.
- *T. montanum* L. subsp. *montanum* – H 3312: 4b.
- Thymus boissieri* Halácsy – H & KA 2208: 5c, H 3366: 5b.

*Th. leucospermus* Hartvig – *H* 3367: 5b, *H* 3403: 5c.

*Th. longicaulis* C. Presl s.l. – *H* & *KA* 2597: 3, *H* & *KA* 2929: 4a, *H* 3368: 5b, *H* 3404: 5c; 7 (obs.).

*Th. striatus* Vahl – *H* 3313: 4a, *H* 3405: 5c.

- *Ziziphora capitata* L. – *H* & *KA* 3076: 3.

### **Leguminosae**

*Anthyllis vulneraria* L. s.l. – *H* 3154: 1c; 3, 4a, 5a, 5b, 6, 7 (obs.).

*Astragalus creticus* subsp. *rumelicus* (Bunge) Maire & Petitm. – *H* 3138: 5b.

*A. sirinicus* Ten. – *H* 3139: 5b.

*Cercis siliquastrum* L. – *H* & *KA* 2105: 1c, *H* & *KA* 2443: 2a.

- *Chamaecytisus* cf. *polytrichus* (M. Bieb.) Rothm. – *H* & *KA* 2591: 3; 6 (obs.).

- *Coronilla scorpioides* (L.) Koch – *H* & *KA* 3082: 1c.

*Cytisus nigricans* L. – *H* & *KA* 2112: 1c.

- *Dorycnium hirsutum* (L.) Ser. – *H* & *KA* 2819: 1c, *H* 3189: 2b, *H* & *KA* 3068: 3, *H* & *KA* 2919: 4a.

*D. pentaphyllum* subsp. *herbaceum* (Vill.) Rouy – *H* & *KA* 2810: 1c, *H* & *KA* 2254: 2a.

*Hippocrepis emerus* subsp. *emeroides* (Boiss. & Spruner) Lassen – *H* & *KA* 2505: 1a, *H* & *KA* 2447: 2b, *H* & *KA* 2655: 7. – Taxonomy according to Lassen (1989: 56–59).

- *Lathyrus digitatus* (M. Bieb.) Fiori – *H* & *KA* 2592: 3, *H* 3145: 4a.

*L. grandiflorus* Sm. – *H* 3190: 2b.

*L. laxiflorus* (Desf.) Kuntze – *H* & *KA* 2811: 1c, *H* & *KA* 3069: 3.

*L. venetus* (Mill.) Wohlf. – *H* & *KA* 2162: 1a, *H* & *KA* 2692: 2b.

*Lotus corniculatus* L. – *H* & *KA* 2812: 1c, *H* & *KA* 2593: 3, *H* & *KA* 2920: 4a, *H* & *KA* 3003: 5b, *H* 3363: 5c.

*Onobrychis alba* (Waldst. & Kit.) Desv. subsp. *alba* – *H* & *KA* 2594: 3; 4a, 5a, 5c (obs.).

- *Ononis spinosa* L. – *H* & *KO* 2433: 1c, *H* 3191: 2a, *H* & *KO* 2371: 3, *H* 3338: 6.

- *Pisum sativum* subsp. *elatius* (M. Bieb.) Asch. & Graebn. – *H* & *KA* 2758: 1a.

*Psoralea bituminosa* L. – *H* & *KA* 2818: 1c; 1a, 3 (obs.).

*Securigera varia* (L.) Lassen – *H* 3192: 2b, *H* & *KA* 3013: 5a. – Taxonomy according to Lassen (1989: 60).

*Trifolium angustifolium* L. – *H* 3343: 6.

*T. arvense* L. – *H* 3339: 6.

*T. hybridum* L. – *H* & *KA* 2921: 4a, *H* 3399: 5c.

- *T. incarnatum* subsp. *molinerii* (Hornem.) Syme – *H* & *KA* 2813: 1c, *H* & *KA* 2714: 7.

- *T. medium* L. – *H* & *KA* 2759: 1a, *H* & *KA* 2814: 1c.

*T. patulum* Tausch – *H* & *KA* 2815: 1c, *H* & *KA* 3014: 5a; 3 (obs.).

- *T. physodes* M. Bieb. – *H* & *KA* 2760: 1a, *H* & *KA* 2816: 1c, *H* & *KA* 2922: 4a.

- *T. grandiflorum* Schreb. – *H* & *KA* 2761: 1a. – Nomenclature according to Gruenberg-Fertig & Stearn (1972: 7).

- *Trigonella corniculata* L. – *H* & *KA* 2817: 1c, *H* & *KA* 2923: 4a, *H* & *KA* 2742: 7.

*Vicia cracca* L. – *H* & *KA* 2669: 1a, *H* & *KA* 2600: 3; 6 (obs.).

*V. grandiflora* Scop. – *H* & *KA* 2113: 1a, *H* & *KA* 2818: 1c, *H* & *KA* 2595: 3.

- *V. hybrida* L. – *H* & *KA* 2656: 7.

- *V. lathyroides* L. – 6 (obs.).

### **Linaceae**

*Linum tenuifolium* L. – *H* 3249: 1a, *H* & *KA* 2825: 1c, *H* & *KA* 3107: 2b.

### **Loranthaceae**

- *Viscum album* L. – *H* & *KA* 2694: 2b.

**Lythraceae**

- *Lythrum salicaria* L. – H 3340: 6.

**Malvaceae**

- *Althaea hirsuta* L. – H & KA 3086: 1c.
- Malva neglecta* Wallr. – H 3314: 4b.
- M. sylvestris* L. – H & KA 2826: 1c.

**Oleaceae**

- Fraxinus ornus* L. – H & KA 2507: 1a, H & KA 2478: 1c, H & KA 2451: 2b.
- Phillyrea latifolia* L. – 3, 4a (obs.).

**Onagraceae**

- Epilobium alsinifolium* Vill. – H 3502: 5c.

**Papaveraceae**

- Chelidonium majus* L. – H & KA 2629: 6, H & KO 2322: 7.
- Corydalis solida* subsp. *incisa* Lidén – H & KA 3022: 5c.
- *Fumaria officinalis* L. – H & KA 2612: 6, H & KA 2784: 7.
- *Papaver dubium* L. – H & KA 2930: 4a, H & KA 2747: 7.
- *P. hybridum* L. – H & KA 2764: 1a.
- *P. rhoeas* L. – H 3209: 2a.

**Platanaceae**

- Platanus orientalis* L. – 1c, 2a (obs.).

**Plumbaginaceae**

- Armeria canescens* (Host) Boiss. – H & KA 2931: 4b, H 3406: 5c.
- *Plumbago europaea* L. – H & KA 2508: 6, H 3445: 7.

**Polygalaceae**

- Polygala nicaeensis* subsp. *mediterranea* Chodat – H & KA 2599: 3, H & KA 2932: 4b, H & KA 3023: 5c, H & KA 3124: 7.

**Primulaceae**

- *Cyclamen hederifolium* Aiton – H & KA 2561: 1a, H & KA 2523: 2b.
- *Lysimachia atropurpurea* L. – H & KA 2190: 6.
- *L. dubia* Sol. – H & KA 2122: 1a.
- L. punctata* L. – H & KA 2123: 1a; 6 (obs.).

**Ranunculaceae**

- *Anemone pavonina* Lam. – H & KA 2695: 2b.
- Clematis flammula* L. – H 3452: 1c, H 3451: 2a.
- C. vitalba* L. – H & KA 2124: 1a, H & KA 2452: 2a, H & KO 2311: 7, 1b, 1c, 2b, 3, 4a, 5a, 6 (obs.).
- *Consolida ajacis* (L.) Schur – H 3250: 1a; 2b (obs.).
- *C. regalis* subsp. *paniculata* (Host) Soó – H 3275: 1c.
- Delphinium fissum* Waldst. & Kit. – H & KA 2211: 5c.
- *D. peregrinum* L. – H & KO 2344: 1c, H 3315: 4a, H 3342: 6.
- Helleborus cyclophyllus* (A. Braun) Boiss. – H & KA 2009: 1a, H & KO 2377: 3, H & KA 2053: 7; 4a, 4b, 5c (obs.).
- *Nigella arvensis* L. – H & KO 2403: 1.
- Ranunculus psilostachys* Griseb. – H & KA 2932: 4a.
- R. sartorianus* Boiss. & Heldr. – H & KA 3005: 5c.
- R. sprunerianus* Boiss. – H & KA 2697: 2a.
- R. velutinus* Ten. – H & KA 2765: 1a, H & KA 2933: 4a, H & KA 2748: 7.



- *Thalictrum minus* subsp. *majus* (Grantz) Rouy & Fouc. – *H* 3369: 2b.  
*Th. minus* subsp. *olympicum* (Boiss. & Heldr.) Strid – *H* 3210: 5c; 5b (obs.).

### Rhamnaceae

*Paliurus spina-christi* Mill. – 1a, 1b, 1c, 2a, 3, 4a, 6, 7 (obs.).

### Rosaceae

*Agrimonia eupatoria* L. – *H* 3276: 3; 1a, 1c, 2a (obs.).

- *Amelanchier ovalis* Medik. subsp. *ovalis* – 2a (obs.).

*Aremonia agrimonoides* (L.) DC. – *H* & *KA* 2673: 1a.

*Crataegus monogyna* Jacq. – *H* & *KA* 2479: 1c.

*Fragaria vesca* L. – *H* & *KA* 2766: 1a.

- *Geum urbanum* L. – *H* & *KA* 2698: 2b.

- *Potentilla* cf. *pedata* Nestl. – *H* & *KA* 2767: 1a, *H* & *KA* 2827: 1c, *H* & *KA* 3108: 2a.

*Prunus domestica* subsp. *insititia* (L.) Bonnier & Layens – 1c, 5a (obs.). – Nomenclature according to Scholz & Scholz (1995: 504).

*Pyrus amygdaliformis* Vill. – *H* & *KA* 2480: 1; 2a, 3, 4a, 5a (obs.).

- *Rubus canescens* DC. – *H* & *KA* 3077: 6.

- *R. ulmifolius* Schott – *H* & *KA* 2453: 2a.

- *Sanguisorba minor* Scop. – *H* & *KA* 2829: 1c, *H* & *KA* 3025: 5a, *H* & *KA* 2785: 7.

- *Sorbus torminalis* (L.) Crantz – 2b (obs.).

### Rubiaceae

*Cruciata laevipes* Opiz – 3, 6 (obs.).

### Rutaceae

- *Haplophyllum coronatum* Griseb. – *H* & *KA* 2830: 1c, *H* & *KA* 2084: 6.

### Saxifragaceae

*Saxifraga paniculata* Mill. – *H* 3370: 5b.

*S. rotundifolia* L. subsp. *rotundifolia* – *H* & *KA* 2768: 1a.

*S. rotundifolia* subsp. *taygetea* (Boiss. & Heldr.) Maire & Petitm. – *H* 3371: 5b, *H* 3407: 5c.

*S. tridactylites* L. – *H* 3372: 5b.

### Scrophulariaceae

- *Chaenorhinum minus* (L.) Lange subsp. *minus* – *H* & *KA* 3087: 1c.

- *Digitalis ferruginea* L. – *H* 3316: 4a.

- *D. laevigata* subsp. *graeca* (Ivanina) Werner – *H* 3198: 2b, *H* 3153: 3.

*D. lanata* Ehrh. – *H* & *KO* 2378: 3, *H* 3317: 4b.

*Euphrasia salisburgensis* Hoppe – *H* 3373: 5b.

- *Linaria genistifolia* (L.) Mill. – *H* 3442: 2b.

*L.* cf. *peloponnesiaca* Boiss. & Heldr. – *H* & *KA* 3088: 1c, *H* 3199: 2b, *H* & *KA* 3026: 5a, *H* 3374: 5b, *H* 3408: 5c.

- *Melampyrum heracleoticum* Boiss. & Orph. – *H* 3200: 2b.

- *Odontites vulgaris* Moench – *H* 3453: 1c, *H* & *KA* 2082: 2a. – Taxonomy and nomenclature according to Snogerup (1983: 4).

- *Parentucellia latifolia* (L.) Caruel – 3 (obs.).

*Rhinanthus mediterraneus* (Sterneck) Adamović – *H* 3375: 5b, *H* & *KA* 2212: 5c.

- *Scrophularia laciniata* Waldst. & Kit. – *H* & *KA* 2213: 5c.

- *S. canina* subsp. *bicolor* (Sm.) Greuter – *H* & *KA* 2630: 6, *H* & *KA* 2786: 7.

*S. scopolii* Hoppe – *H* & *KA* 2631: 6.

- *Verbascum chaixii* subsp. *austriacum* (Roem. & Schult.) Hayek – *H* 3237: 7.

*V. longifolium* Ten. – *H* 3376: 5b; 5c (obs.).

- *V. macrurum* Ten. – *H* & *KA* 2858: 4b.

*Veronica chamaedrys* subsp. *chamaedryoides* (Bory & Chaub.) M.A. Fisch. – *H* & *KA* 2769: 1a, *H* & *KA* 2699: 2a.

- *V. jacquinii* Baumg. – *H* & *KA* 2934: 4b.

### **Solanaceae**

- *Atropa belladonna* L. – *H* 3482: 2b.
- *Physalis alkekengi* L. – *H* & *KA* 2481: 1a.
- *Solanum dulcamara* L. – *H* & *KA* 3078: 6; 7 (obs.).
- *S. luteum* Mill. subsp. *luteum* – *H* & *KA* 2482: 1b.

### **Thymeleaceae**

*Daphne laureola* L. subsp. *laureola* – *H* & *KA* 2000: 1a; 2b (obs.).  
*D. oleoides* Schreb. – *H* & *KA* 2214: 5c.

### **Tiliaceae**

*Tilia tomentosa* Moench – *H* & *KA* 2524: 2a.

### **Ulmaceae**

*Celtis australis* L. – *H* & *KA* 2500: 1c.

### **Umbelliferae**

*Athamanta macedonica* (L.) Spreng. – *H* 3240: 1c.

*Bupleurum falcatum* subsp. *cernuum* (Ten.) Arcang. – *H* 3511: 2b.

*B. flavicans* Boiss. & Heldr. – *H* 3290: 4a.

- *B. glumaceum* Sm. – *H* 3262: 1c.

*B. karglii* Vis. – *H* 3201: 2a.

*Carum graecum* subsp. *serpentinicum* Hartvig – *H* & *KA* 2750: 1a.

- *Chaerophyllum aromaticum* L. – *H* & *KA* 2303: Balta, N border of the National Park.

- *Ch. temulentum* L. – *H* & *KA* 2800: 1c.

*Conium maculatum* L. – *H* & *KA* 2180: 6, *H* 3162: 7.

- *Daucus carota* subsp. *major* (Vis.) Arcang. – *H* 3331: 6.

- *Eryngium amethystinum* L. – *H* 3291: 5a.

- *Ferulago nodosa* (L.) Boiss. – *H* & *KA* 2801: 1c, *H* 3390: 5b.

*Geocaryum pindicolum* (Hauskn.) Engstrand – *H* & *KA* 3000: 5c.

*Heracleum sphondylium* subsp. *pyrenaicum* (Lam.) Bonnier & Layens – *H* 3472: 5c.

- *Laser trilobum* (L.) Borkh. – *H* 3180: 2b.

*Malabaila aurea* (Sm.) Boiss. – *H* & *KA* 3001: 1c, *H* & *KA* 2685: 2a, *H* & *KA* 2725: 7.

- *Opopanax hispidus* (Friv.) Griseb. – *H* 3332: 6.

- *Orlaya daucoides* (L.) Greuter – *H* & *KA* 3100: 2a.

*O. daucorlaya* Murb. – *H* 3334: 1c, *H* & *KA* 3100: 2a, *H* & *KA* 2151: 2b, *H* & *KA* 2726: 7; 1a, 3, 6 (obs.).

- *Peucedanum arenarium* Waldst. & Kit. – *H* & *KA* 2080: 2a.

- *Physospermum cornubiense* (L.) DC. – *H* 3181: 2b.

- *Pimpinella peregrina* L. – *H* 3263: 1c.

*P. tragium* Vill. – *H* 3182: 2b.

*Scandix australis* subsp. *grandiflora* (L.) Thell. – *H* & *KA* 2900: 4b, *H* & *KA* 2727: 7.

- *S. macrorhyncha* C.A. Mey. – *H* & *KA* 2728: 7.

*Selinum silaifolium* (Jacq.) G. Beck – *H* & *KA* 2101: 1a, *H* 3182: 2b.

- *Smyrniium perfoliatum* L. subsp. *perfoliatum* – *H* & *KA* 2102: 1a.

*Tordylium apulum* L. – *H* & *KA* 2802: 1c, *H* & *KA* 2901: 4a.

- *Torilis arvensis* (Huds.) Link subsp. *arvensis* – *H* 3335: 6; 2a, 7 (obs.).

- *T. arvensis* subsp. *purpurea* (Ten.) Hayek – *H* & *KA* 3060: 3.

- *T. japonica* (Houtt.) DC. – *H* & *KA* 2569: 6.

*Trinia glauca* subsp. *pindica* Hartvig – *H* 3350: 5b.

**Urticaceae**

*Parietaria officinalis* L. – 1a, 1c, 3, 6, 7 (obs.).

**Valerianaceae**

*Valeriana crinii* subsp. *epirotica* (Phitos) Franzén – *H* & *KO* 2423: 5c.

- *V. officinalis* L. subsp. *officinalis* – *H* & *KA* 2054: 7.

*V. tuberosa* L. – *H* & *KA* 2935: 4b, *H* & *KA* 3006: 5c.

- *Valerianella coronata* (L.) DC. – *H* & *KA* 2770: 1c, *H* & *KA* 2936: 4a, *H* & *KA* 2937: 4b.

**Verbenaceae**

- *Verbena officinalis* L. – *H* & *KA* 2070: 2a.

**Monocotyledoneae****Amaryllidaceae**

*Sternbergia lutea* (L.) Spreng. subsp. *lutea* – *KO* 2525: 7.

**Araceae**

- *Arum maculatum* L. – 1a, 1b, 1c, 5a (obs.).

**Iridaceae**

*Crocus veluchensis* Herbert – *H* & *KA* 3028: 5c.

**Gramineae**

*Alopecurus gerardii* Vill. – *H* & *KA* 5b: 2999.

*Avena sterilis* L. – *H* & *KA* 3091: 1b.

*Briza humilis* M. Bieb. – *H* & *KA* 3093: 1a.

*B. maxima* L. – *H* & *KA* 3092: 1c.

*Bromus squarrosus* L. – *H* & *KA* 3277: 1c, *H* & *KA* 2369: 3, *H* & *KA* 3288: 4a, *H* & *KA* 3289: 4b.

*Cynosurus echinatus* L. – *H* 2834: 1b, *H* 2684: 2a.

*Dactylis glomerata* L. – *H* & *KA* 2799: 1c, *H* & *KA* 2823: 7.

*Dasypyrum villosum* (L.) P. Candargy – *H* & *KA* 2773: 1a, *H* & *KA* 2798: 1c.

*Eragrostis cilianensis* (All.) Janchen – *H* 3030: 5c. – Nomenclature according to Meikle (1985: 1841).

*Festuca varia* Haenke – *H* 3094: 1c, *H* 3215: 2a, *H* & *K* 2939: 4b, *H* 3030: 5c.

*Lolium perenne* L. – *H* & *KA* 2833: 1c, *H* & *KA* 3109: 2a.

*Melica ciliata* L. – *H* & *KA* 3213: 2a, *H* & *KA* 2379: 3.

*M. uniflora* Retz. – *H* & *KA* 2875: 1a, *H* & *KA* 2772: 7.

*Phleum alpinum* L. subsp. *alpinum* – *H* & *KA* 3029: 5b.

*Ph. pratense* L. – *H* & *KA* 2774: 1b.

*Ph. subulatum* (Savi) Asch. & Graebn. – *H* & *KA* 3278: 1c.

*Poa bulbosa* L. – *H* & *KA* 2832: 1c.

*P. pratensis* L. – *H* & *KA* 2619: 6, *H* & *KA* 2724: 7.

**Liliaceae**

*Asparagus acutifolius* L. – 1c, 3, 4a (obs.).

*Asphodeline liburnica* (Scop.) Reichenb. – *H* & *KO* 2320: 1b.

- *A. lutea* (L.) Reichenb. – *H* & *KA* 2661: 7.

*Colchicum autumnale* L. – *H* & *KA* 2501: 5a.

- *Convallaria majalis* L. – *H* 3212: 2b.

*Fritillaria thessala* subsp. *ionica* (Halácsy) Kamari – *H* & *KA* 2712: 7.

*Gagea pusilla* (F.W. Schmidt) Schult. & Schult. f. – *H* & *KA* 3019: 5c.

- *Muscari botryoides* (L.) Mill. – *H* 3514: 3.

*M. neglectum* Guss. – *H* & *KA* 2763: 1a, *H* & *KA* 2824: 1b, *H* & *KA* 2721: 5a.

*Ornithogalum oligophyllum* E.D. Clarke – *H* & *KA* 2598: 3, *H* & *KA* 2210: 5c.

- *Polygonatum odoratum* (Mill.) Druce – *H* 3471: 2b.
- Ruscus aculeatus* L. – *H* & *KA* 2235: 1c.
- *Scilla autumnalis* L. – *H* & *KA* 2477: 1c.
- S. bifolia* L. – *H* & *KA* 3021: 5c.
- Veratrum album* L. – *H* & *KA* 2304: Balta, N border of the National Park.

### Orchidaceae

- Anacamptis pyramidalis* (L.) L.C.M. Richard – *H* & *KA* 2771: 1a.
- Cephalanthera damasonium* (Mill.) Druce – *H* & *KA* 2675: 2b.
- C. rubra* (L.) L.C.M. Richard – *H* & *KA* 2831: 2b.
- Epipactis helleborine* (L.) Crantz – *H* 3251: 1a, *H* & *KA* 3089: 1c.
- *Himantoglossum hircinum* subsp. *calcaratum* (G. Beck) Soó – 5a (obs.).

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