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BOCCONEA – 31

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BOCCONEA
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Results of OPTIMA's Thirteenth "Iter Mediterraneum" through Albania, 22 June to 3 July 2022

Werner Greuter

with contributions by

Patrizia Campisi, Gianniantonio Domina, Ermelinda Gjeta,
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Werner Greuter[1] (with contributions by Patrizia Campisi, Gianniantonio Domina, Ermelinda Gjeta, Mattia Letizia Marino & Francesco M. Raimondo)[2]

Results of OPTIMA's Thirteenth "Iter Mediterraneum" through Albania, 22 June to 3 July 2022

Abstract

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The revision of plant material collected during the Iter Mediterraneum XIII of OPTIMA in Albania in 2017 was completed in 2022. The vascular plant material comprises ca. 1750 gatherings, each with 0 to 32 (or in one case 44) duplicates, summing up to a total of ca. 13650 specimens, collected in 112 numbered localities. The number of taxa represented is 957. One of the taxa collected turned out not to have been previously described, which is here treated as a new species named *Hypericum ermelindarum*. One new combination, at the rank of subspecies, in *Aubrieta*, is published.
The bryophytes material encompasses 61 taxa (14 liverworts and 47 mosses). For 38 of these taxa, the data provided extend their distribution to addictional prefectures across the country. *Plagiochila asplenioides*, *Hylocomiadelphus triquetrus*, *Hymenoloma crispulum*, *Rhynchostegium riparioides*, and *Schistidium apocarpum* had not been recorded in Albania for over 50 years.

Key words: Flora of Albania, Itinera Mediterranea, OPTIMA, new species, new combination, *Aubrieta*, *Hypericum*, Bryophytes .

Article history: Received 15 December 2025; received in revised form 15 January 2026; accepted 25 January 2026; published 23 March 2026.

1. Planning and logistics

by Gianniantonio Domina

The Iter to Albania was planned by Alfred Mullaj, with support from Ermelinda Gjeta, Ermelinda Mahmutaj, Marjol Meco, Ajola Mesiti, and Oresta Saliaj, under the supervision of Gianniantonio Domina. This 13-day field expedition included 11 full days of collecting. The circuit began in Tirana and utilized bases in Librazhd, Korça, Berat, Kukës, and Valbona to systematically explore the mountain regions of Albania's south, center, and north.

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[2]See addresses at the end, p. 82.

The team

The expedition team included five Albanian botanists, who took turns leading the group, and ten foreign participants (two junior and eight senior members, as detailed below). The team was complemented by Attilio Carapezza, an entomologist from Palermo, whose participation added significant scientific and social value to the group (Figs. 1-2). The collecting group thus, while variously composed as mentioned on the individual labels, consisted of 13 members on every day.

Albanian participants

Ermelinda Gjeta; Ermelinda Mahmutaj (21-24 June); Marjol Meco (25 June to 3 July); Ajola Mesiti (28 June to 3 July); Oresta Saliaj (21-27 June).

Foreign participants

Salvatore Cambria (junior participant, Catania); Davide Dagnino (junior participant, Genova); Gianniantonio Domina (senior participant, Palermo); Werner Greuter (senior participant, Palermo); Edda Lattanzi† (senior participant, Roma); Simonetta Peccenini (Genova); Eckhard von Raab- Straube† (senior participant, Berlin); Francesco Maria Raimondo (senior participant, Palermo); Giovanni Scafidi (senior participant, Palermo); Ernst Vitek (senior participant, Wien).

Fig. 1. Group photograph at Tomorri mountain, 27 June. From left: G. Domina, D. Dagnino, P. Danellari, O. Saliaj, M. Meco, W. Greuter, G. Scafidi, A. Carapezza, S. Cambria, E. Lattanzi, F.M. Raimondo.

Fig. 2. Group photograph on the ferry, crossing Lake Koman, 3 July. Standing from left: G. Domina, G. Scafidi, M. Meco, E. Gjeta, E. von Raab-Straube, D. Dagnino, E. Vitek, S. Peccenini; sitting from left: W. Greuter, E. Lattanzi, A. Carapezza, F. M. Raimondo.

Collecting localities

A list of collecting localities has been carefully maintained and was used as the basis for labelling. The localities themselves were verified, and the coordinates confirmed or refined, with the aid of the Google Earth map system of Google Inc. Habitat indications associated with each locality are generalised and do not necessarily characterise the habitat of the individual collected plant.

The localities (Figs. 3-5), in chronological order, are enumerated in Table 1. In order to convey a quick, general picture of the distribution patterns that emerge from the collected material, the collecting localities have been grouped in 8 ± natural territorial units, each designated by a capital letter. The territorial units are shown in the overview map (Fig. 3). They are as follows:

A: Shebenik-Jabllanicë National Park, Jabllanicë Mountain (localities 1-9 and 17-33; elev. 1075-2010 m; 22 and 24 June; *##0001-0285a* and *0366-0574*);

B: Polis Mountains (localities 10-16; elev. 560-1695 m; 23 June; *##0286-0365*);

C: Area S of Korça (localities 34-38; elev. 1085-1475 m; 25 June; *##0575-0702*);

D: Devolli river valley, scattered stops during the transfer from Korça to Berat (localities 39-43; elev. 160-790 m; 26 June; *##0703-0859*);

E: Tomorri Mountains (localities 44-51; alt. 1230-2345 m; 27 June; *##0860-0980*);

F: Pashtriku Mountain, N slopes of main range (localities 52-64; elev. 450 and 795-1810 m; 28-29 June; *##0981-1276*);

G: Area E of Valbona (localities 65-68; elev. 370-700 m; *##1277-1371*);

H: Valbona area (localities 69-112; elev. 1180-2000 m; 1-2 July; *##1372-1691*).

Table 1. Collecting localities of Iter Mediterraneum XIII: From left: General area (see text), locality number, date, district, locality as on labels, habitat, altitude, latitude, longitude, gathering numbers.

Area	Loc.	Date	Prefecture (ar)	Locality	Habitat	Alt. (m)	Lat.	Long. E	Gath.
A	1	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Mountain pastures	2000	41°12 51	20°27 31	0001-0031
A	2	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Mountain pastures	1740-2010	41°12 59 41°12 51	20°26 58 20°27 30	0032-0119g
A	3	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Mountain forest and meadows	1640	41°13 04	20°26 33	0120-0134
A	4	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Mountain forest and meadows	1550	41°12 46	20°25 28	0135-0145b
A	5	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Mountain forest	1275	41°13 41	20°24 03	0146-0146a
A	6	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Bog in mountain forest and surroundings	1250	41°13 02	20°24 30	0147-0189
A	7	22 June	Elbasan	Area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës	Roadside	1075	41°13 17	20°23 01	0190
A	8	23 June	Elbasan	Area S of Librazhd, mountains of Polis, high valley E of Faqja e Madhe	Mountain meadows	1685	41°05 32	20°19 49	0191-0203a
A	9	23 June	Elbasan	Area S of Librazhd, mountains of Polis, slopes E of Faqja e Madhe	Mountain meadows and rocks	1685-1880	41°05 32 41°05 16	20°19 48 20°19 06	0204-0285a
B	10	23 June	Elbasan	Area S of Librazhd, mountains of Polis, high valley E of Faqja e Madhe	Bog and humid meadow	1695	41°05 16	20°19 54	0286-0309
B	11	23 June	Elbasan	Area S of Librazhd, mountains of Polis, track from Dardhë in direction Faqja e Madhe	Forest with meadows in-between	1630	41°06 25	20°19 17	0310-0341
B	12	23 June	Elbasan	Area S of Librazhd, mountains of Polis, track from Dardhë in direction Faqja e Madhe	Semi-ruderal meadow	1550	41°06 39	20°19 27	0342-0344
B	13	23 June	Elbasan	Area S of Librazhd, mountains of Polis, track from Dardhë in direction Faqja e Madhe	Rocks in forest	1360	41°07 16	20°20 07	0345-0352
B	14	23 June	Elbasan	Area S of Librazhd, mountains of Polis, track from Dardhë in direction Faqja e Madhe	Forest	1275	41°07 08	20°20 24	0353-0357
B	15	23 June	Elbasan	Area S of Librazhd, mountains of Polis, track	Meadows and edge of forest	1250	41°06 55	20°20 28	0358-0364

Table 1. continued

				from Dardhë in direction Faqja e Madhe					
B	16	23 June	Elbasan	Area S of Librazhd, in village Dardhë	Ruderal	560	41°08 24	20°21 55	0365
A	17	24 June	Dibra	Area NNE of Librazhd, 1.7 km ENE of Fushë Studë, at crossroad to Steblevë	Roadside	1190	41°19 33	20°25 06	0366-0367
A	18	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Forest and meadows with rocks in-between, limestone	1515-1545	41°16 28 41°16 30	20°28 29 20°28 43	0368-0374
A	19	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Forest and meadows with rocks in-between, limestone	1515-1600	41°16 28 41°16 30	20°28 29 20°29 19	0375-0405a
A	20	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Forest, meadows and ruderal at parking	1515	41°16 28	20°28 29	0406-0410
A	21	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Grazed meadows with forest islands	1675-1775	41°15 58 41°16 12	20°29 13 20°28 41	0411-0418
A	22	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Limestone rocks	1710	41°15 59	20°29 17	0419-0444
A	23	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Limestone rocks	1670	41°16 11	20°28 59	0445-0455
A	24	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Limestone rocks in the forest	1525	41°16 25	20°28 27	0456-0461
A	25	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Limestone rocks and forest	1690	41°16 00	20°29 15	0462-0468
A	26	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Limestone scree and forest	1670	41°15 37	20°29 05	0469-0478
A	27	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Forest	1525	41°16 28	20°28 21	0479
A	28	24 June	Elbasan	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	Lake, bog and surrounding meadows	1655	41°16 53	20°27 04	0480-0521a
A	29	24 June	Dibra	Area ENE of Librazhd, SE of Fushë Studë, NE-part of Jabllanica Mountains	*Fagus* forest	1530	41°17 33	20°26 13	0522
A	30	24 June	Dibra	Area ENE of Librazhd, ESE of Fushë Studë, NE-part of Jabllanica Mountains	Grazed meadow	1300	41°18 24	20°26 32	0523
A	31	24 June	Dibra	arEa ENE of Librazhd, ESE of Fushë Studë, NE-part of Jabllanica Mountains	Rivulet and surrounding boggy meadows and forest	1265	41°18 30	20°26 34	0524-0559

Table 1. continued

A	32	24 June	Dibra	Area NNE of Librazhd, 2.7 km E of Fushë Studë, road to Steblevë	Meadow at roadside	1275	41°19 18	20°25 51	0560-0569
A	33	24 June	Dibra	Area ENE of Librazhd, ESE of Fushë Studë, NE-part of Jabllanica Mountains	Meadow and scrub at roadside	1250	41°18 48	20°26 38	0570-0574
C	34	24 June	Dibra	Area ENE of Librazhd, E of Fushë Studë, NE-part of Jabllanica	Scrub at roadside	1250	41°19 14	20°26 48	0575
C	35	25 June	Korça	Area S of Korça, road Boboshticë to Dardhë, gorge 1.3 km SE Boboshticë	Rocks, screes and riverside	1085	40°32 44	20°46 34	0576-0652
C	36	25 June	Korça	Area S of Korça, road Boboshticë to Dardhë, 1.8 km WNW of Dardhë	*Fagus* forest, meadows and brookside	1475	40°31 28	20°48 29	0653-0695
C	37	25 June	Korça	Area S of Korça, road Boboshticë to Dardhë, 3 km SSE of Boboshticë	Dry gravel slope and roadside	1325	40°32 04	20°47 25	0696-0700
C	38	25 June	Korça	Area S of Korça, road Boboshticë to Dardhë, 1.9 km SE of Boboshticë	Roadside	1165	40°32 40	20°46 58	0701-0702
D	39	26 June	Korça	Road Maliq to Lozhan i Ri, c. 7 km WNW of Maliq	*Corylus*-dominated forest, meadows and riverside gravel	790	40°43 48	20°37 12	0703-0771p
D	40	26 June	Korça	Road Lozhan i Ri to Moglicë, 2.7 km SE Lozhan i Ri	Rocks and screes in gorge	695	40°43 12	20°32 32	0772-0800
D	41	26 June	Korça	Road Lozhan i Ri to Moglicë, c. 5 k m ESE of Moglicë	roadside	635	40°41 36	20°27 07	0801
D	42	26 June	Elbasan	Road Moglicë to Gramsh, c. 15 km SSE of Gramsh	*Pinus* forest	550	40°46 24	20°18 17	0802-0822
D	43	26 June	Berat	Left slope of valley of river Devoll, c. 1.6 km Sw of Frashër	Dried-out pond and surrounding cultivated land	160	40°51 12	19°56 11	0823-0859
E	44	27 June	Berat	Area ESE of Berat, Tomorri mountain, arond the top	Limestone, gravel fields and mountain meadows	2345	40°38 10	20°09 45	0860-0911
E	45	27 June	Berat	Area ESE of Berat, Tomorri mountain, 0.7 km SSE of the top	Mountain meadows and rocks	2265	40°37 51	20°09 58	0912-0922c
E	46	27 June	Berat	Area ESE of Berat, Tomorri mountain, c. 2.7 km SSE of the top	Mountain meadows and rocks	1935	40°37 07	20°11 01	0923-0950e
E	47	27 June	Berat	Area ESE of Berat, Tomorri mountain, c. 3.6 km SSE of the top	Stony mountain meadows, limestone	1720	40°36 38	20°11 23	0951-0954
E	48	27 June	Berat	Area ESE of Berat, Tomorri mountain, c. 3.4 km SSE of the top	Stony mountain meadows, limestone	1675	40°36 49	20°11 25	0955-0956
E	49	27 June	Berat	Area ESE of Berat, Tomorri mountain, c. 3.1 km SE of the top	Stony mountain meadows near forest border	1620	40°37 05	20°11 25	0957-0958

Table 1. continued

E	50	27 June	Berat	Area ESE of Berat, Tomorri mountain, SE-slope	Stony slope with scrub	1325	40°35 41	20°11 33	0959-0979
E	51	27 June	Berat	Area ESE of Berat, Tomorri mountain, SE-slope	Stony slope with scrub	1230	40°35 27	20°11 09	0980
F	52	28 June	Kukës	S of the highway, c. 3.8 km W of Kukës, c. 3 km EENE of Kolsh	*Quercus* forest with intensively grazed meadows in-between	405	42°04 52	20°22 35	0981-1032
F	53	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, ridge from Çahan to the top	Mountain meadows and rocky outcrops	1810	42°12 37	20°30 14	1033-1050
F	54	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, ridge from Çahan to the top	Mountain meadows and rocky outcrops	1600	42°12 32	20°29 37	1051-1088
F	55	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, ridge from Çahan to the top	Mountain meadows and rocky outcrops	1320	42°12 28	20°28 48	1089-1131
F	56	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, upper part of track from Krumë to Çahan	Scrubland with rocky outcrops, roadside	1015-1100	42°11 50	20°28 13	1132-1160
F	57	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 2 km ENE of Krumë	Scrubland with rocky outcrops, roadside	795	42°12 06	20°26 16	1161-1162
F	58	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 2 km ENE of Krumë	Scrubland with rocky outcrops, roadside	825	42°12 02	20°26 22	1163-1164
F	59	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 3 km ENE Krumë	Scrubland with rocky outcrops, roadside	980	42°12 17	20°26 53	1165-1168
F	60	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 3.2 km ENE Krumë	Scrubland with rocky outcrops, roadside	995	42°12 21	20°27 02	1169-1173
F	61	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 1.8 km NW Çahan	Scrubland with rocky outcrops, roadside	1090	42°12 30	20°27 19	1174-1181
F	62	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 1.4 km NW Çahan	Scrubland with rocky outcrops, roadside	1065	42°12 23	20°27 36	1182-1185
F	63	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, track from Krumë to Çahan, c. 0.9 km WNW Çahan	Scrubland with rocky outcrops, roadside	1175	42°12 01	20°27 46	1186-1190
F	64	29 June	Kukës	Area N of Kukës, Pashtriku Mountain, area NE of Çahan	Tree groups with grazed and cut meadows in-between	1120-1145	42°11 55 42°12 07	20°28 27 20°28 43	1191-1276
G	65	30 June	Kukës	Road Kukës to Bajram Curri, c. 2.6 km WNW of Golaj	Stony slope with single *Juniperus* shrubs	520	42°15 33	20°20 51	1277-1304b
G	66	30 June	Kukës	Road Kukës to Bajram Curri, c. 0.3 km SW of Kam	Scrubland, brookside	505	42°15 17	20°14 51	1305-1313a

Table 1. continued

					and small pond				
G	67	30 June	Kukës	Road Kukës to Bajram Curri, c. 2.5 km NW Vlad	Scrubland with open places in-between	700	42°19 31	20°10 21	1314-1368
G	68	30 June	Kukës	Road Kukës to Bajram Curri, c. 4 km ENE of Bajram Curri, c. 2 km NE Jaho Salihi	Meadows and scrubland	370	42°21 56	20°07 37	1369-1371
H	69	30 June	Kukës	Road to Valbonë, Dragobi, gorge of Perroi Milloshit and surroundings	Rocks and brookside	565	42°26 12	19°59 06	1372-1409
H	70	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	*Pinus* forest	1770	42°30 02	19°59 36	1410-1411
H	71	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadow at roadside	1490	42°30 16	19°58 03	1412-1414
H	72	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1490	42°30 20	19°58 19	1415-1419
H	73	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1540	42°30 32	19°58 34	1420-1424
H	74	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Forest	1590	42°30 37	19°59 10	1425
H	75	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1650	42°30 28	19°59 32	1426-1428
H	76	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadow	1690	42°30 15	19°59 47	1429-1437
H	77	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Mountain forest	1720	42°30 08	19°59 41	1438-1449a
H	78	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, around the alpine cabins	Nutrient-rich place near huts	1815	42°29 51	19°59 36	1450-1454
H	79	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, around the alpine cabins	Subalpine pastures and roadside	1930-1970	42°29 27 42°29 21	19°59 45 19°59 55	1455-1459
H	80	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Subalpine bog	1965	42°29 23	19°59 55	1460-1482
H	81	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Dwarf shrub heath	1965-2000	42°29 15	19°59 57	1483-1486
H	82	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Alpine grassland and dwarf shrub heath	2000	42°29 15	19°59 57	1487-1517
H	83	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadows and forest along the track	1650-1880	42°29 32	19°59 40	1517-1523
H	84	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Nutrient-rich place near huts	1815	42°29 51	19°59 36	1524-1525
H	85	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Along the track	2000	42°29 16	19°59 57	1526
H	86	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadows and forest along the track	1650-1880	42°30 28 42°30 28	19°59 32 19°59 40	1527-1534
H	87	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Along the track	2000	42°29 16	19°59 57	1535-1539
H	88	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, around the alpine cabins	Subalpine pastures and roadside	1930-1970	42°29 27 42°29 21	19°59 45 19°59 55	1540-
H	89	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1490	42°30 16	19°57 53	1541
H	90	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1505	42°30 14	19°57 39	1542

Table 1. continued

H	91	1 July	Kukës	Valbonë, road to Çerem, c. 0.35 km SW of Çerem	Edge of forest	1180	42°29 23	19°57 32	1543
H	92	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, shortly above Çerem	Roadside	1265	42°29 53	19°57 23	1544
H	93	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Dwarf shrub heath	1965-2000	42°29 21 42°29 15	19°59 55 19°59 57	1545-1546
H	94	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadow	1690	42°30 15	19°59 47	1547-1549
H	95	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadows and forest along the track	1650-1880	42°30 28 42°29 32	19°59 32 19°59 40	1550-1555
H	96	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Forest	1720	42°30 08	19°59 41	1556
H	97	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadows and forest along the track	1590-1650	42°30 28 42°30 38	19°59 32 19°59 10	1557-1562
H	98	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Meadows and forest along the track	1815-1965	42°29 23 42°29 51	19°59 55 19°59 35	1563
H	99	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Along the track	2000	42°29 16	19°59 57	1564-1568
H	100	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve	Edge of forest	1490	42°30 16	19°57 53	1569-1570
H	101	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, shortly above Çerem	Roadside	1265	42°29 53	19°57 23	1571-1572
H	102	1 July	Kukës	Valbonë, road via Çerem to Qafa Kunji i Armëve, shortly above Çerem	Roadside	1290	42°29 55	19°57 20	1573
H	103	2 July	Kukës	Valbonë, circular valley W of Kukaj	*Fagus* forest with meadows and rocky outcrops	1340	42°27 30	19°50 55	1574-1612
H	104	2 July	Kukës	Valbonë, circular valley W of Kukaj	*Fagus* forest	1340-1390	42°27 31 42°27 15	19°50 57 19°50 33	1613-1614, 1617
H	105	2 July	Kukës	Valbonë, circular valley W of Kukaj	*Fagus* forest	1340	42°27 31	19°50 57	1615a-1616, 1618
H	106	2 July	Kukës	Valbonë, circular valley W of Kukaj	*Fagus* forest	1340-1390	42°27 31 42°27 15	19°50 57 19°50 33	1619-1620
H	107	2 July	Kukës	Valbonë, circular valley W of Kukaj	*Fagus* forest near the scree	1390	42°27 11	19°50 20	1621-1623
H	108	2 July	Kukës	Valbonë, circular valley W of Kukaj	limestone scree and edge of forest along it	1450-1550	42°27 10 42°27 08	19°50 20 19°50 08	1624-1676a
H	109	2 July	Kukës	Valbonë, circular valley W of Kukaj	limestone rocks	1640	42°27 10	19°50 02	1677-1686
H	110	2 July	Kukës	Valbonë, 0.6 km NW of Kukaj	along track in forest, limestone	1210	42°27 22	19°52 02	1687
H	111	2 July	Kukës	Valbonë, 0.2 km NW of Kukaj	limestone scree	1135	42°27 17	19°52 19	1688
H	112	2 July	Kukës	Valbonë, besides hotel c. 1 km SSW of the village	along the road	1060	42°25 25	19°52 27	1689-1691

The itinerary

21 June – Tirana

Foreign participants arrived, met with Albanian specialists at the University of Tirana's Natural History Museum, and visited the Herbarium. In the afternoon, a seminar was delivered by E. Gjeta on the geology, climate, floristics, and vegetation of the areas to be visited during the expedition. The group, later on, transferred to Librazhd.

22 June – *Shebenik* (general area **A** p.p.)

The Shebenik area was surveyed, focusing on Fagus sylvatica woodlands and open pastures on serpentine substrates in the Shebenik-Jabllanicë National Park, at elevations between 1075 and 2010 m a.s.l.

23 June – *Polis Mountains* (general area **B**)

The Polis Mountains were visited, featuring *Fagus sylvatica* forests and open pastures on carbonatic bedrock, at 560-1695 m a.s.l.

24 June – *Jabllanicë Mountains* (general area **A** p.p.)

The transboundary Jabllanicë Mountain (Albania/North Macedonia) was explored across conglomerate and predominantly calcareous lithologies. Observations included meadows, *Fagus sylvatica* and *Abies alba* forests, and alpine pastures at 1190-1775 m a.s.l.

25 June – *Korça & Dardhë* (general area **C**)

The group travelled toward Korça and Dardhë, visiting sites with *Pinus nigra*, *Fagus sylvatica*, and *Abies alba* forests on conglomerate and carbonate formations, at 1085-1475 m a.s.l.

26 June – *Travel to Berat* (general area **D**)

On the way from Korça to Berat, several stops were made to survey canyon systems and the Devolli River, across serpentine and carbonate rocks at 160-790 m a.s.l.

27 June – *Tomorri Mountains* (general area **E**)

The Tomorri Mountains, limestone with localized flysch overlay, were explored between 1230 and 2345 m a.s.l. Sites included open pastures, scree slopes, and rocky habitats.

28 June – *Travel to Kukës* (general area **F**) p.p.

The group travelled northeast to Kukës. Along the route, mixed *Quercus forests* and intensively grazed meadows near Qark Kukës were examined at 405 m a.s.l.

29 June – *Pashtriku Mountain* (general area **F** p.p.)

Pashtriku Mountain, on the border with Kosovo, was surveyed. Observations included mountain meadows, shrublands, and limestone rock outcrops at 795-1810 m a.s.l.

30 June – *Travel to Valbona* (general area **G**)

The group moved north toward Valbona, with stops to document stony slopes, shrublands, and rivulet habitats at 370-700 m a.s.l.

1 July – *Valbona Valley* (general area **H** p.p.)

The Valbona Valley was explored on limestone substrates below the Çet Harusha peak (2422 m). Sites included *Pinus peuce* woodlands, meadows, and open dwarf-shrub formations at 1180-2000 m a.s.l.

2 July – *Valbona Valley and Valbona Pass* (general area H p.p.)

Survey continued in the Valbona Valley and Valbona Pass, focusing on *Fagus sylvatica* forests with associated meadows, rock outcrops, and limestone scree, at 1340-1390 m a.s.l.

3 July – *Return to Tirana*

The group returned to Tirana via the Lake Koman ferry crossing. No plants were collected during that final transfer.

2. The geology, climate, floristics, and vegetation of the visited areas

by Ermelinda Gjeta

Albania, with an area of 28,748 km² and average elevation of 708 m above sea level, is located in the southwestern part of the Balkan Peninsula. It borders with Montenegro in the northwest, Kosovo in the northeast, North Macedonia in the east and Greece in the south, while the Strait of Otranto separates it from Italy in the west. Its territory is part of the Mediterranean Alpine region and falls within the subtropical Mediterranean climate zone. (Qiriazi 2001; Barina & al. 2017).

The Albanides portion of the Apennine-Dinaride-Albanide-Hellenide mountain arc presents a complex geological structure, characterized by folding and faulting that took place from the late Paleozoic to the Cenozoic. The neotectonic stage of Albania began in the Middle Miocene. The Albanides are divided into:

- Inner Albanides, dominated by magmatic rocks, include: the Korab, Gashi, and Mirdita zones, as well as the intermontane depressions;
- Outer Albanides, which include: the Albanian Alps, Krasta-Cukali, Kruja, Ionian, and Sazani zones, and the Foreland Depression (also known as the Peri-Adriatic Depression). (Qiriazi 2001).

The country has a variety of geological formations, its mountains developed during different ages (Qiriazi 2001):

- Miocene-Pliocene-Quaternary: the mountainous relief;
- Pliocene-Quaternary: the Mati depression, the Upper Shkumbin valley, and the hills of the Western Lowland (or Coastal Plain);
- Quaternary: the plains of the Western Lowland, as well as the depressions and fluvio-lacustrine basins of the river valleys.

Based on hypsometry, the following regions are distinguished in Albania:

- Mountain regions: characterized by high relief energy, significant dissection, steep slopes, and high precipitation (1,400-2,500 mm per year);
- Depressions (Basins): such as Great Prespa, Kolonja, Tropoja, etc.;
- Hill region;
- Western Lowland;
- Coastal region.

The palaeogeography of Albania, the complex evolution of its relief, and its lithological diversity, which is characterized by the presence of terrigeneous, magmatic and limestone formations, along with other factors, determine a wide variety of both horizontal and vertical land forms, such as mountains, hills, plains, depressions, and valleys. The country's highest peak is Mount Korab (2764 m) in the Korab Mts. followed by the Gramoz Mts. (2523 m), Tomor Mts. (2417 m) etc. (Qiriazi 2001; Barina & al. 2017).

Albania is characterized by a Mediterranean climate, with mild, humid winters and hot, dry summers. These characteristics apply best in the coastal area, while further inland, the climate assumes continental features. Four Mediterranean climatic zones can be defined (lowland, hilly, sub-mountainous, and mountainous), with 13 sub-zones. The average annual temperatures vary from 14°C in the northeast to 17-18°C in the coastal region. The average annual precipitation is c. 1,480 mm, with a very irregular spatial distribution. Precipitation occurs mainly in the form of rain, whereas snow prevails in the

high mountains of the interior and in the country's eastern parts (Qiriazi 2001, Pils 2016, Barina & al. 2017).

Albania's pronounced hydrographic diversity is borne out by a rich hydrographic network, the rivers are mostly short, with drainage basins that discharge into the Adriatic and Ionian Seas. River courses show a steep gradient, linked to petrographic diversity and the high elevation difference between their upper and lower reaches. The hydrographic network, with a total length of 60,323 km, is remarkably dense, with 1.7 km per km² per average. The water discharge into the seas, averaged over many years, is of c. 41.2 km³ per year, a figure that ranks Albania among the countries with high water resources (Qiriazi 2001). Several Albanian rivers retain close-to-natural flow regimes, particularly the Vjosa River, considered to be one of the last free-flowing large rivers in Europe. The country also includes important natural lakes, such as Lake Shkodra, Lake Ohrid, and Lake Prespa, which are of high ecological and biogeographical interest. Seasonal variation in discharge, governed by precipitation patterns and snowmelt, strongly influences sediment transport and flooding processes, affecting aquatic ecosystems (Miho & al. 2013).

In Albania, four main soil types can be distinguished that, following the principle of vertical zonation, correspond to four vegetation zones:

1. mountain meadow soils (alpine pastures),
2. brown forest soils (beech and conifer zone),
3. brown soils (oak zone), and
4. grey-brown soils (forest zone and Mediterranean scrub).

In addition, depending on specific geological and hydrological conditions, other soil types are found, such as: alluvial soils (in river valleys), saline soils, and marsh soils (Qiriazi 2001).

All the above-mentioned geological, climatic, orographic, geographical etc. features result in a high diversity of flora and vegetation. The Albanian flora includes c. 280 endemic and subendemic species and comprises c. 3629 vascular plant species, 960 genera and 175 families, which represents about 30 % of Europe's total flora (Meco & Mullaj 2015). The vegetation of Albania, which took shape since the Tertiary period, shows many Mediterranean and Central European floristic elements. It is characterized by the presence of elements from four main phytoclimatic zones:

1. Mediterranean scrub,
2. oak forests,
3. beech forests, and
4. alpine pastures.

Maritime sand dunes, saline marshes and grasslands are found in the lowland areas, along and near the Adriatic and Ionian Seas, characterised by *Pancratium maritimum*, *Eryngium maritimum*, *Echinophora spinosa*, *Juniperus oxycedrus* subsp. *macrocarpa*, *Tripolium pannonicum, Halimione portulacoides*, *Limbarda crithmoides* subsp. *longifolia*, *Juncus acutus*, etc., while Mediterranean forests with *Pinus halepensis*, and *P. pinea* are mainly found along the coastal shoreline. The hills are dominated mostly by woods and scrub, with *Cistus* spp., *Erica arborea*, *Phlomis fruticosa*, *Phillyrea latifolia*, *Quercus* spp., etc. Between elevations of 400 and 1250 m extends the oak zone, dominated by mesophilic (in the north and northeastern part of the country), xerophilic (in its southern part) and mesoxerophilic oaks (in its central part). Most widespread are pure or mixed forests with *Quercus petraea*, *Q. frainetto*, *Q. cerris*, *Carpinus betulus*, etc.

The Albanian mountain system (with outcrops of limestone, serpentine, flysch, granite, etc.) is formed by two major mountain ranges, the Dinaric (in the northwestern part of the country) and the Pindos Mountain Range (in its southeastern part). In these mountains pure, mature or mixed forests of *Fagus sylvatica*, *Abies alba*, *A. borisii-regis*, *Pinus leucodermis*, *P. peuce*, etc. are stocking.

The alpine grasslands, above the tree-line, is mostly formed by associations of *Festuca* spp., *Sesleria* spp., *Poa* spp., and *Phleum* spp. These are also home to:

1. Arctic-Alpine species (*Petasites doerfleri*, *Arctostaphylos alpinus*, *Primula minima*, etc.);
2. Central European and Balkan elements (*Anemone ranunculoides*, *Pedicularis verticillata*, *Cystopteris alpina*, etc.);
3. Continental, Anatolian usand Pontic taxa (*Agropyron cristatum*, H*yacinthella leucophaea*, *Echium russicum*, *Stipa tirsa*, etc.);
4. Mediterranean taxa (*Equisetum palustre*, *Ajuga orientalis*, *Arisarum vulgare*, *Melilotus graecus*, etc.) (Paparisto & al. 1988; Barina & al. 2017).

3. The vascular plants collected during the Iter in Albania

by Werner Greuter

Introduction

To get a feel of what OPTIMA's Itinera Mediterranea are about and what makes these scientific undertakings so valuable and unique, it is a good idea to peep into the account of one of the previous Itinera; perhaps best in that on Iter Mediterraneum VII to Peloponnisos in Greece (Greuter 2012). There, you will find synthetic information on each of the first eleven Itinera, with relevant bibliography, if any. The scientific results of the Twelfth Iter to Tunisia, in 2014, were published in 2015 (Domina & al. 2015a, 2005b). In this introduction, I will try and convey an idea of how the collecting work was organised, so as to hopefully catch the interest of potential participants to any further edition of the Itinera.

The Itinera Mediterranea were created in 1986 by OPTIMA (Organization for the Phyto-Taxonomic Investigation of the Mediterranean Area), following the idea and initiative of Prof. Benito Valdés of Sevilla, Spain, who has been the manager and *spiritus rector* of the relevant OPTIMA Commission for several decades (Valdés 1988a, 1988b).

The initial idea was to organise an Iter every year, a schedule that had to be abandoned after the fifth edition, of 1992, as the work for organising an Iter proved to be increasingly heavy, and the complexities of logistics increased. Since 1994, the Itinera are taking place at irregular intervals, as and when an opportunity presents itself. The next Iter, No. 14, was scheduled to take place in 2022 in the Caucasus (Georgia) in 2022, but had unfortunately to be postponed due to the sadly known geopolitical events in the wider target area.

The declared purpose of the Itinera Mediterranea, from the onset, has been: (a) to study and collect plants from poorly known areas, (b) to study areas which, while perhaps locally well known, have been but little explored by botanists at large, and (c) to enable young Mediterranean botanists to acquire field experience under the guidance of their elders. To

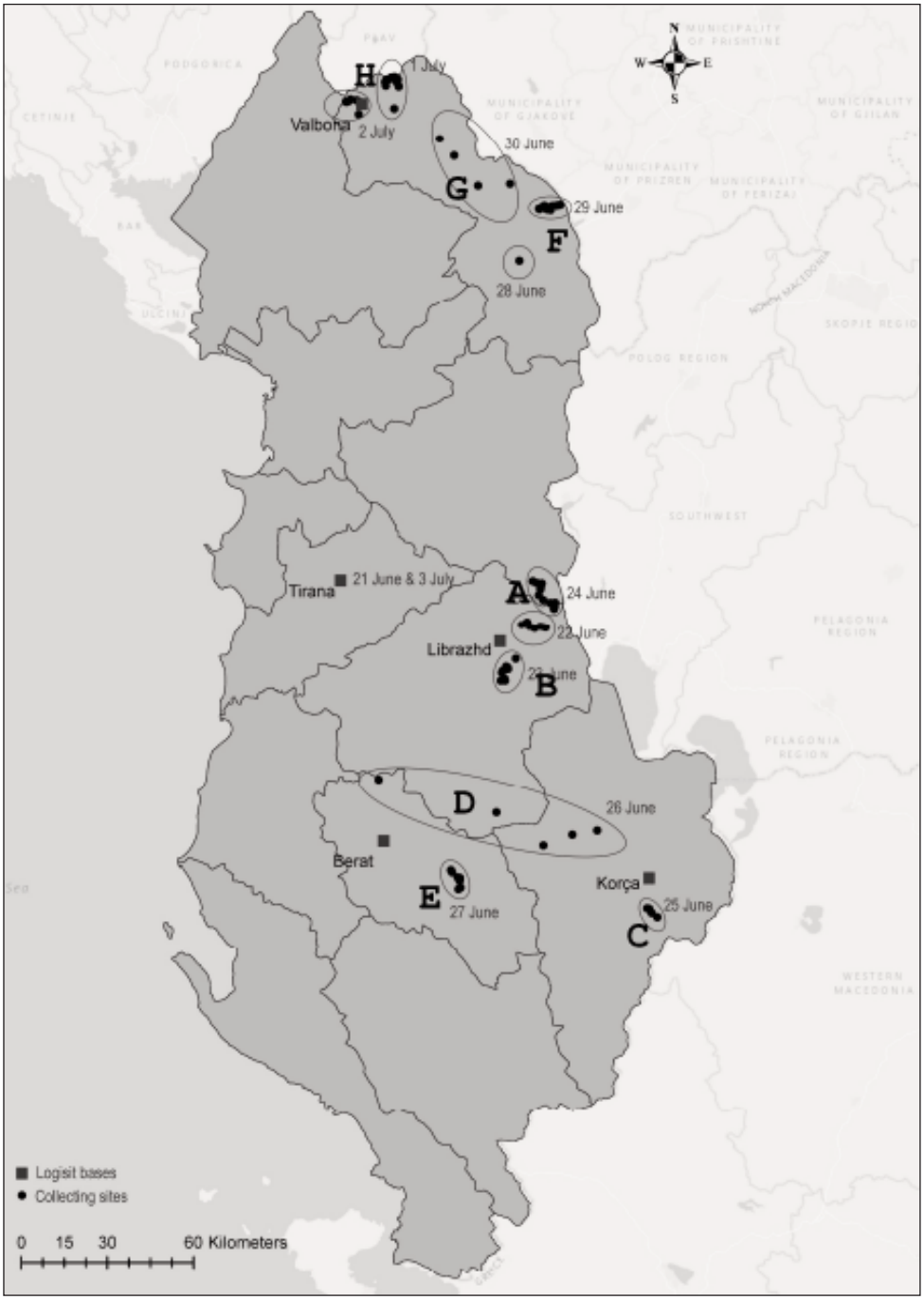

Fig. 3. Map of Albania, showing the territorial units (A-H) and the collecting localities (unnumbered – see Figs. 4-5 for numbering).

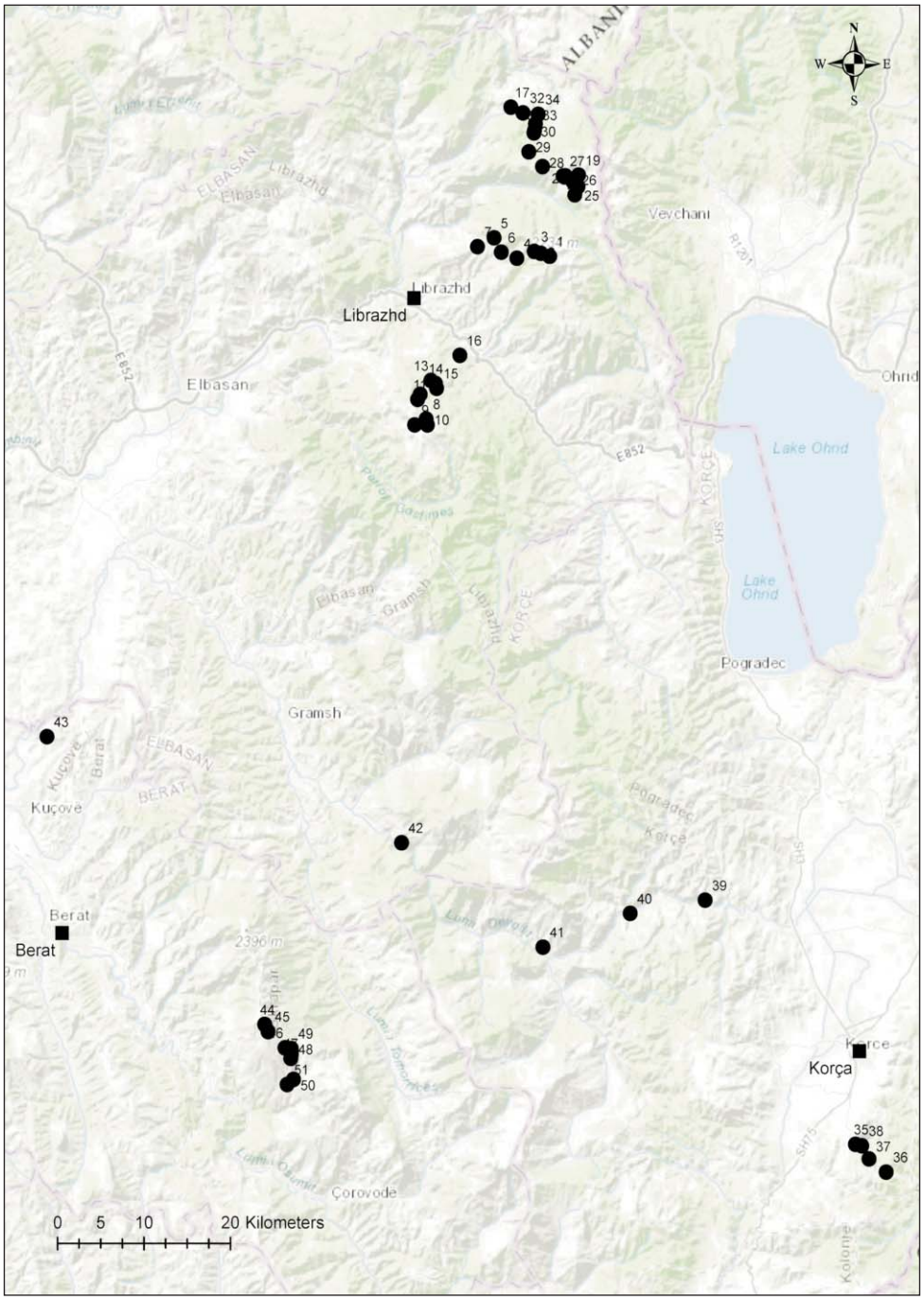

Fig. 4. Lower partial map, showing the territorial units (A-E) and the corresponding collecting localities (numbered 1-51).

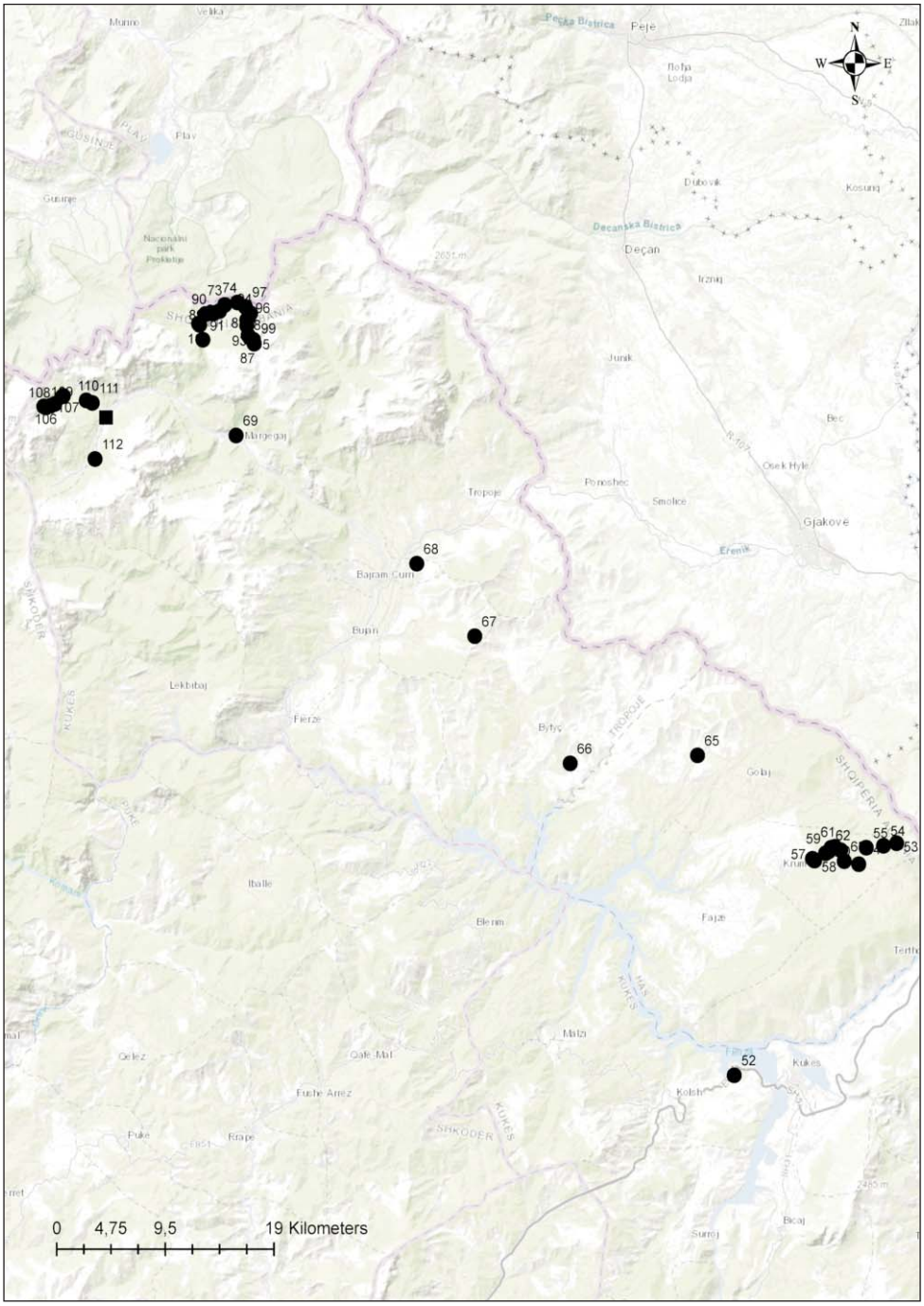

Fig. 5. Upper partial map, showing the territorial units (F-H) and the corresponding collecting localities (numbered 52-112).

promote the last-named aspect, half the places for participants (6 for a total of 12) were reserved for "junior" botanists, who were partly subsidised by the "senior" participants: the juniors payed, among them, for one third of the expedition costs, whereas two thirds were borne by the seniors. In addition, small grants were offered to junior participants by OPTIMA. The role of the Itinera in serving as a platform on which experienced field botanists can transmit their expertise to the younger generations is, in my opinion, their prime and most valuable feature.

An aspect of the Itinera that is often under-estimated is the handling of the sheer bulk of the new material collected. Up to the present day, the number of different gatherings made during the 13 Itinera adds up to well over 22,000, or >2,000 number per iter on average. Considering that, as a rule, ten specimens for each gathering were collected, and even taking into account the fact that this ideal number of parts, while often exceeded, was not consistently attained. Based on the average rate of 7.8 specimens per garthering achieved in the Albanian Iter, the total harvest can be estimated at ca. 150,000 specimens of vascular plants. Sets were routinely distributed to the herbaria of the institution from where the participating members originated; this makes for a substantial set of critically identified plants available, as a standard for comparison, at a large number of Herbaria throughout, but not limited to, the Mediterranean area. The two main and most complete sets were deposited, one in the host country, the other at the seat of the OPTIMA Secretariat (initially Geneva, then Berlin, and more recently Palermo).

The present account includes vascular plants and bryophytes. This material was collected by F. M. Raimondo and G. Domina and studied by P. Campisi and Mattia Letizia Marino, Palermo. A paper on *Heteroptera* (*Insecta*, *Hemipera*) collected during the expedition by Attilio Carapezza and kept in his private collection, is in preparation; in it about fifteen species are recorded from Albania for the first time.

The way in which the collecting was organised and the material handled and processed has not so far been fully described. In Albania, the drying of the plants was achieved by means of hot air (at a temperature below 50 °C), generated by small heaters with powerful ventilator fans and channelled via tubes of heat-resistant plastic foil through the plant presses, stacked with corrugated cardboard in addition to newspapers. The processed is illustrated in (Domina & al. 2015b: 10, Fig. 4 and 5). With minor exceptions, the plants so treated dry completely overnight. Yet, the number of four heaters is insufficient to cope with a full daily harvest; the heater number is limited, however, by available transport and by the power capacity at each camp site.

Each member of the team was responsible for collecting a pre-determined set of plant families; by this arrangement, duplications in gathering of the same plants was minimised, though not eliminated. The same species being gathered independently by two or three participants at the same site explains the high number of duplicates (up to 32 and in one case, 44) of individual gatherings, as a botanist's heart bleeds at throwing away well gathered, valuable plant material.

Ernst Vitek as the excursion's "secretary" undertook the immediate recording, on his laptop, of all locality details, including GPS co-ordinates and elevation records, and of potentially ephemeral plant features such as flower colour and estimated height. Collection numbers were assigned on the spot and recorded immediately in the database, while being

noted simultaneously on all newspaper wrappers, thus excluding the risk of labelling errors. The pressing and numbering of the plants, a collective task often extending far into the night, was done by individual localities. If plants from a given locality turned up after the dealing with that locality had been concluded, they were assigned the last number of their locality with a letter added at the end (the same procedure was used in the rare cases in which a collection turned out to be mixed). The presence of such "lettered numbers" explains the fact that the total number of gatherings (1750) is higher than the running numbering, that ends at 1691.

At the end of the expedition, the whole collected material, in excess of 80 parcels, was loaded upon the van of the Orto botanico, University of Palermo, and transported by sea (Durrës-Bari) and land to Palermo, with Giovanni Scafidi as the driver. In Palermo, Filippo Scafidi, jr. (contracted by the Herbarium Greuter Foundation), and myself reordered the specimens in numerical sequence and redefined the parts (specimens), a time-consuming labour that should not be under-estimated. I then proceeded to the identification of the material with the aid of local and regional Floras and manuals and with the help of specialists for particular, critical groups: *Aria* (FMR = F. M. Raimondo, Palermo), *Cardamine* s. str. (excl. *Dentaria*) (KM = Karol Marhold, Bratislava), *Festuca* and *Poa* (RK = Rainer Karl, Köflach, Austria), *Hieracium* and *Pilosella* (GG = Günter Gottschlich, Tübingen), *Orobanchaceae* (*Orobanche* and *Phelipanche*) (GD = Gianniantonio Domina, Palermo), *Rosa* (EL = Edda Lattanzi†, Roma), and *Viola* (ME = Matthias Erben, München).

Specimen enumeration

Within each of the four principal groups of higher plants (vascular cryptogams, gymnosperms, dicotyledons, monocotyledons) the arrangement is alphabetical by families, then genera, then species. The delimitation and nomenclature of families follows NCU-3 (Greuter & al. 1993, with the exception of *Morinaceae,* here segregated from *Dipsacaceae*), that of species and subspecies conforms to that in Med-Checklist (Greuter & al. 1984, 1986, 1989; Greuter 2008), or Euro+Med Plantbase (Anonymous 2006+), allowing for deviations when justified by subsequent publications. Infra-subspecific taxa are recognised only exceptionally. The name of the taxon is followed, on the same line, by the general areas or territorial units (lettered A to H, as defined on p. 7 and Fig. 3) and the altitudinal range within which it has been collected, based on the label data. On a separate line, the individual specimens are enumerated in the format N: *XXXX* [Y], where N stands for the locality number (1 to 112, as in Table 1), *XXXX* for the gathering number (*0001* to *1691*), and Y for the number of duplicates collected, followed by the initials of the identifier (when other than myself; ; see above for the list of specialists involved).

A species new to science is described and named in a separate chapter, at the end.

Cryptogamae vasculares

Equisetaceae

Equisetum arvense L. – **A, H** – 565-1265 m
31: *0539* [13]; **69:** *1372* [14].
Equisetum palustre L. – **A** – 1265 m
31: *0539a* [0], *0541* [12].
Equisetum telmateia Ehrh. – **D** – 160 m
43: *0826* [18].
Equisetum variegatum F. Weber & D. Mohr (aff.) – **C, H** – 1965 80-1085 m
35: *0585* [7], *0608* [5]; **80:** *1466* [10].

Ophioglossaceae

Botrychium lunaria (L.) Sw. – **A** – 1655 m
28: *0521* [1].

Polypodiaceae (s.l.)

Asplenium adiantum-nigrum subsp. ***serpentini*** (Tausch) Heufl. – **A, C** – 1085-2010 m
2: *0072* [19]; **6:** *0173* [3]; **35:** *0602* [6].
Asplenium ceterach L. – **B, C, H** – 1085-1340 m
15: *0363* [4]; **35:** *0619* [2]; **103:** *1609* [4].
Asplenium fissum Willd. – **A, H** – 1340-1880 m
9: *0268* [4]; **103:** *1592* [13]; **108:** *1658* [32]
Asplenium ruta-muraria L. – **A, H** – 1525 m
24: *0457* [9]; **103:** *1610* [3].
Asplenium septentrionale (L.) Hoffm. – **A, H** – 1250-2000 m
33: *0571* [7].; **99:** *1568* [3].
Asplenium trichomanes L. – **A, E, H** – 1340-1935 m
9: *0253* [7]; **22:** *0421* [3]; **46:** *0942* [1]; **103:** *1611* [10].
Asplenium viride Huds. – **A** – 1655-2010 m
2: *0090* [16]; **9:** *0229* [5]; **28:** *0520* [9].
Athyrium filix-femina (L.) Roth – **A, H** – 1740-2010 m
2: *0093* [13]; **93:** *1545* [7].
Cystopteris fragilis (L.) Bernh. subsp. ***fragilis*** – **A, B** – 1525-1880 m
9: *0276* [13]; **11:** *0316* [15], *0318* [4]; **22:** *0426* [5]; **24:** *0458* [2]; **28:** *0511* [5].
Cystopteris fragilis subsp. ***alpina*** (Lam.) Hartm. – **E** – 2265 m
45: *0922* [7].
Dryopteris filix-mas (L.) Schott – **A, B, H** – 1275-2010 m
2: *0089* [4], *0089a* [4], *0092* [1]; **14:** *0355* [14]; **23:** *0455* [24]; **103:** *1607* [8].
Dryopteris villarii subsp. ***pallida*** (Bory) Heywood – **A, H** – 1340-1670 m

26: *0477* [4]; **103:** *1608* [16].
Gymnocarpium robertianum (Hoffm.) Newman – **H** – 565-1340 m
69: *1380* [4]; **103:** *1591* [7].
Paraceterach marantae (L.) R. M. Tryon – **C, D** – 695-1085 m
35: *0596* [32]; **40:** *0792* [10].
Polystichum aculeatum (L.) Roth – **H** – 1340 m
103: *1606* [6].
Polystichum lonchitis (L.) Roth – **A, B, E** – 1630-2265 m
2: *0091* [1]; **9:** *0218* [14]; **11:** *0334* [2]; **26:** *0469* [3]; **28:** *0521a* [15]; **45:** *0921* [2].
Pteridium aquilinum (L.) Kuhn – **A** – 1250 m
6: *0159* [9].

Gymnospermae

Cupressaceae

Juniperus communis subsp. ***hemisphaerica*** (C. Presl) Nyman – **E** – 2345 m
44: *0871* [15].
Juniperus communis subsp. ***nana*** Syme – **H** – 1450-1550 m
108: *1644* [8].
Juniperus oxycedrus L. – **C** – 405-1250 m
6: *0161* [5]; **35:** *0624* [14]; **52:** *1019* [14].

Pinaceae

Abies alba Mill. – **A, H** – 1340-1525 m
27: *0479* [20]; **103:** *1601* [9].
Abies borisii-regis Mattf. – **A** – 1515-1600 m
19: *0385* [10].
Picea abies (L.) H. Karst. – **H** – 1060 m
112: *1691* [6].
Pinus nigra J. F. Arnold – **H** – 1450-1550 m
108: *1651* [5].
Pinus nigra J. F. Arnold – **A, D** – 550-1250 m
6: *0188* [8]; **42:** *0821* [11].
Pinus peuce Griseb. – **H** – 1815-2000 m
78: *1454* [11]; **85:** *1533* [7].
Pinus sylvestris L. – **E** – 2345 m
44: *0860* [10].

Dicotyledones

Acanthaceae

Acanthus hungaricus (Borbás) Baen. – **F** – 1120-1145 m
64: *1241* [14].

Aceraceae
Acer campestre L. – **D** – 790 m
39: *0746* [16].
Acer heldreichii Orph**.** – **H** – 1450-1550 m
108: *1641* [6].
Acer monspessulanum L. – **F** – 1120-1145 m
64: *1246* [13].
Acer obtusatum Willd. – **B** – 1275 m
14: *0353* [14].
Acer pseudoplatanus L. – **A** – 1525 m
24: *0459* [9], *0461* [2].
Acer tataricum L. – **D, F** – 405-790 m
39: *0721* [19]; **52:** *1032* [13].

Anacardiaceae

Cotinus coggygria Scop. – **C** – 108 m
35: *0621* [17].
Pistacia terebinthus L. – **D** – 695 m
40: *0795* [11].

Aristolochiaceae

Aristolochia rotunda L. – **F** – 405 m
52: *0996* [2].

Asclepiadaceae

Vincetoxicum hirundinaria Medik. (cf.) – **H** – 1340 m
103: *1604* [10].
Vincetoxicum hirundinaria subsp. ***nivale*** (Boiss. & Heldr.) Markgr. – **A** – 1670 m
23: *0445* [8].

Betulaceae

Alnus glutinosa (L.) Gaertn. – **G** – 505 m
66: *1312* [13].
Betula pendula Roth – **G** – 700-1340 m
67: *1350* [20]; **103:** *1594* [10].

Boraginaceae

Alkanna scardica Griseb. – **A** – 1740-2010 m
2: *0032* [3].
Anchusa azurea Mill. – **D** – 695 m
40: *0783* [10].
Anchusa officinalis L. – **C** – 1085 m
35: *0576* [7].
Cerinthe minor subsp. ***auriculata*** (Ten.) Domac – **D** – 790 m
39: [22].
Cynoglossum officinale L. – **A, B, C, F** – 1165-1880 m
9: *0215* [2]; **11:** *0321* [4]; **38:** *0702* [10]; **55:** *1096* [3].
Echium italicum L. subsp. ***italicum*** – **D** – 790 m
39: *0747* [7].
Echium italicum subsp. ***biebersteinii*** (Lacaita) Greuter & Burdet – **D** – 790 m
39: *0747a* [0].
Echium vulgare L. – **A, D, H** – 565-1275 m
32: *0567* [11]; **39:** *0755* [12]; **69:** *1396* [2].
Halacsya sendtneri (Boiss.) Dörfl. – **F** – 980 m
59: *1168* [22].
Lappula barbata (M. Bieb.) Gürke – **D** – 695 m
40: *0779* [1].
Lappula squarrosa (Retz.) Dumort. – **H** – 565 m
69: *1381* [10].
Lithospermum officinale L. – **B, H** – 1060-1550 m
12: *0344* [2]; **112:** *1689* [10].
Moltkia petraea (Tratt.) Griseb. – **H** – 565m
69: *1387* [14].
Myosotis nemorosa Besser – **H** – 1540 m
73: *1421* [12].
Myosotis suaveolens Willd. – **A, E** – 1670-2010 m
2: *0075* [7]; **9:** *0210* [4], *0227* [6]; **26:** *0475* [3]; **46:** *0950c* [5].
Myosotis sylvatica subsp. ***cyanea*** (Hayek) Vestergr. – **A, E, H** – 1640-2345 m
3: *0123* [10]; **44:** *0886* [11]; **46:** *0950d* [7]; **78:** *1451* [14].
Onosma echioides (L.) L. – **C, F** – 1015-1100 m
35: *0579* [9]; **56:** *1154* [5].
Pulmonaria officinalis L. – **C, D** – 790-1475

36: *0674* [6]; **39:** *0742* [3].

Symphytum tuberosum subsp. ***angustifolium*** (A. Kern.) Nyman – **A, C** – 1475-1880 m
9: *0231* [4]; **36:** *0670* [8].

Buxaceae

Buxus sempervirens L. – **A, F, G** – 405-1250 m
6: *0177* [10]; **52:** *1011* [12]; **64:** *1206A°* [10]; **66:** *1305* [5], *1310* [0].

Campanulaceae

Asyneuma canescens (Waldst. & Kit.) Griseb. & Schenk – **F, G** – 700-1320 m
55: *1090* [1]; **67:** *1356* [3].

Asyneuma limoniifolium (L.) Janch. – **B, C, E, F** – 1085-1935 Mm
13: *0349* [9]; **35:** *0637* [10]**45:** *0912* [7]; **46:** *0937* [6]; **55:** *1099* [2]; **64:** *1242*-[5].

Campanula cervicaria L. – **A, F** – 1120-1250
6: *0176* [17]; **64:** *1216* [3], *1216A* [3].

Campanula foliosa Ten. – **C, H** – 1475-1880 m
36: *0687* [13]; **86:** *1530* [5].

Campanula glomerata L. – **A, C, F, G** – 700-1880 m
9: *0239* [6]; **36:** *0685* [6]; **54:** *1082* [11]; **67:** *1357* [1].

Campanula hawkinsiana Hausskn. & Heldr. – **A, C, D** – 695-2010 m
2: *0050* [5] **35:** *0638* [14]; **40:** *0772* [22].

Campanula lingulata Waldst. & Kit. – **D** – 550 m
42: *0808* [9].

Campanula persicifolia L. – **H** – 1340 m
103: *1586* [6].

Campanula pichleri Vis. – **A, B, H** – 1630-1720 m
11: *0327* [11]; **26:** *0470* [4]; **28:** *0514* [3]; **77:** *1444* [7].

Campanula rotundifolia L. (*Campanula albanica* Witasek) – **H** – 1450-1550 m
108: *1671* [0].

Campanula sparsa Friv. – **C** – 1475 m
36: *0690* [17].

Campanula spatulata Sm. – **A, E** – 1550-1935 m
4: *0141* [5]; **8:** *0199* [5]; **9:** *0244* [7]; **21:** *0417* [6]; **46:** *0945* [3].

Edraianthus graminifolius (L.) A. DC. (s.l.) – **A, E, F, H** – 1450-2345 m
9: *0211* [22]; **28:** *0509* [5];**44:** *0905* [1]; **53:** *1048* [6]; **108:** *1627* [19].

Jasione heldreichii Boiss. & Orph**.** – **H** – 1930-1970 m
79: *1458* [4].

Phyteuma orbiculare L. – **H** – 1690-1965 m
76: *1435* [7]; **80:** *1462* [2].

Caprifoliaceae (s.l.)

Lonicera alpigena L. – **H** – 1450-1550 m
108: *1642* [10].
Lonicera caprifolium L. – **F** – 795 m
57: *1162* [3].
Lonicera formanekiana Halácsy – **A** – 1670 m
23: *0451* [11].
Lonicera xylosteum L. – **H** – 1340-1550 m
103: *1599* [18]; **108:** *1648* [10].
Sambucus ebulus L. – **F** – 405 m
52: *1005* [11].
Viburnum lantana L. – **A, H** – 1340-1670 m
23: *0453* [4]; **103:** *1602* [9].

Caryophyllaceae

Arenaria conferta subsp. ***serpentini*** (A. K. Jacks.) Strid – **A** – 1740-2010 m
2: *0076* [4].
Arenaria leptoclados (Rchb.) Guss. – **A, D** – 790-1690 m
25: *0462* [7]; **39:** *0731* [3].
Arenaria serpyllifolia L. – **F** – 1320 m
55: *1118* [7].
Cerastium brachypetalum subsp. ***tauricum*** (Spreng.) Murb. – **A, E** – 1325-1880 m
9: *0228* [17]; **25:** *0463* [3]; **50:** *0976* [7].
Cerastium decalvans Schloss. & Vuk. – **A, E, F** – 1600-2345 m
9: *0264* [13], *0266* [2]; **23:** *0449* [10]; **25:** *0465* [6]; **44:** *0865* [9]; **46:** *0936* [9]; **54:** *1058* [4], *1060* [15].
Cerastium grandiflorum subsp. ***serpentini*** F. K. Mey – **G, H** – 700 m
67: *1341* [15]; **69:** *1391A* [9].
Cerastium moesiacum Friv. – **H** – 2000 m
82: *1513* [20].
Cerastium rectum Friv. subsp. ***rectum*** – **A** – 1640 m
3: *0121* [11].
Cerastium semidecandrum L. – **A** – 1655 **28:** *0518* [18].
Cerastium smolikanum Hartvig – **A** – 1740-2010
1: *0031* [1]; **2:** *0100* [1], *0103* [1].
Dianthus carthusianorum L. (s.l.) – **H** – 1650-1880 m
95: *1551* [4].
Dianthus cruentus Griseb. – **G** – 700 m
67: *1333* [3].
Dianthus deltoides L. subsp. ***deltoides*** – **A** – 1685-1880 m
9: *0252* [8].
Dianthus giganteus d'Urv. – **B, F, G** – 700-1600 m

13: *0345* [3]; **54:** *1062* [7]; **64:** *1253* [3]; **67:** *1361* [6].

Dianthus petraeus subsp. ***minutiflorus*** (Halácsy) Greuter & Burdet – **A, E, F** – 1685-2010 m
2: *0082* [2]; **9:** *0230* [13]; **46:** *0934* [9]; **53:** *1050* [1].

Dianthus pinifolius subsp. ***serbicus*** Wettst. – **C** – 1085 m
35: *0625* [18].

Dianthus sylvestris subsp. ***bertisceus*** Rech. f. – **H** – 1340-1550 m
103: *1575* [1]; **108:** *1639* [18].

Dianthus sylvestris Wulfen subsp. ***sylvestris*** – **E** – 1325 m
50: *0966* [14].

Drypis spinosa L. subsp. ***spinosa*** – **H** – 1135 m
111: *1688* [16].

Herniaria glabra L. – **A, F** – 405-2010 m
2: *0104* [0]; **52:** *1025* [4].

Herniaria incana Lam. – **C, F** – 1120-1475 m
36: *0692* [4]; **64:** *1198* [3].

Minuartia attica (Boiss. & Spruner) Vierh. – **A, E, F** – 1786-2345 m
2: *0078* [3], *0101* [1]; **9:** *0265* [5], *0267* [3]; **44:** *0864* [11], *0906* [2]; **55:** *1114* [5].

Minuartia baldaccii (Halácsy) Mattf. subsp. ***baldaccii*** – **A** – 1275-2010 m
2: *0102* [3]; **4:** *0144* [4]; **5:** *0162a* [3].

Minuartia bosniaca (Beck) K. Malý – **F** – 1320 m
55: *1114A* [0].

Minuartia garckeana (Boiss.) Mattf. – **G** – 505-520 m
65: *1299* [2]; **66:** *1307a* [4].

Moehringia trinervia (L.) Clairv. – **A, B** – 1630-1710 m
11: *0333* [3]: **22:** *0422* [1].

Paronychia albanica Chaudhri – **E, F** – 1600-2345 m
44: *0888* [6]; **54:** *1052* [7].

Petrorhagia illyrica subsp. ***haynaldiana*** (Janka) P. W. Ball & Heywood – **F** – 1120-1145 m
64: *1196* [10].

Petrorhagia obcordata (Margot & Reut.) Greuter & Burdet – **D** – 790 m
39: *0733* [4].

Petrorhagia saxifraga (L.) Link – **D, F** – 405-1100 m
39: *0730* [12], *0771n* [12]; **52:** *1026* [9], *1028* [4]; **56:** *1150* [3].

Sagina procumbens L. – **A, F** – 405-1525 m
24: *0460** [2]; **52:** *1027* [4].

Sagina subulata (Sw.) C. Presl – **A, H** – 1525-2000 m
24: *0456* [1], *0460* [2]; **87:** *1536* [2]; **88:** *1540* [1].

Saponaria bellidifolia Sm. – **E** – 1935 m
46: *0924* [1].

Scleranthus perennis L. subsp. ***perennis*** – **H** – 1930-2000 m
79: *1459* [3]; **82:** *1494* [9].

Scleranthus perennis subsp. ***marginatus*** (Guss.) Nyman – **A** – 1685 m
8: *0197* [1].

Silene armeria L. – **A, D** – 790-1275 m

32: *0561* [15]; **39:** *0771m* [7].
Silene bupleuroides subsp. ***staticifolia*** (Sm.) Chowdhuri – **C, E** – 1085-1325 m
35: *0626* [8]; **50:** *0967* [12].
Silene coronaria (L.) Clairv. – **D** – 790 m
39: *0771k* [3].
Silene fabarioides Hausskn. – **C** – 1085 m
35: *0628* [16].
Silene italica (L.) Pers. subsp. ***italica*** – **C, D** – 790-1475 m
36: *0671* [3]; **39:** *0732* [3].
Silene latifolia Poir. – **A, H** – 1650-1880 m
9: *0243* [3]; **95:** *1550* [7].
Silene paradoxa L. – **G** – 700 m
67: *1363* [16].
Silene parnassica subsp. ***pindicola*** (Hausskn.) Greuter – **A** – 1710-2010 m
2: *0081* [5]; **22:** *0439* [2].
Silene pusilla subsp. ***albanica*** (K. Malý) Greuter & Burdet – **A, H** 1650-2010 m
2: *0044* [7]; **9:** *0258* [20]; **26:** *0476* [11]; **80:** *1478* [19]; **83:** *1519* [7]; **95:** *1554* [16].
Silene schwarzenbergeri Halácsy – **C** – 1085 m
35: *0616* [8].
Silene sendtneri Boiss. subsp. ***sendtneri*** – **H** – 2000 m
82: *1514* [6]; **85:** *1531* [9]; **87:** *1539* [20].
Silene viridiflora L. – **F** – 405-1340 m
52: *1016* [1]; **103:** *1585* [9].
Silene viscaria (L.) Jess. – **A, H** – 1540-2000 m
9: *0213* [13], *0243a* [2]; **73:** *1420a* [2]; **82:** *1511* [8].
Silene vulgaris (Moench) Garcke subsp. ***vulgaris*** – **A, F, G, H** – 700-2010 m
2: *0070* [3]; **22:** *0437* [11]; **61:** *1177* [2]; **67:** *1355* [5]; **82:** *1515* [2].
Spergularia rubra (L.) J. Presl & C. Presl – **H** – 2000 m
87: *1537* [11].
Stellaria nemorum L. – **A** – 1675-1775 m
21: *0418* [9].

Chenopodiaceae

Blitum bonus-henricus (L.) Rchb. – **E** – 2345 m
44: *0863* [8].

Cistaceae

Cistus albanicus Heywood (***Cistus sintenisii*** Litard.) – **A, C** – 1475-1550 m
4: *0135* [13];.**36:** *0660* [8].
Cistus creticus subsp. ***eriocephalus*** (Viv.) Greuter & Burdet – **D** – 550 **42:** *0817* [9].
Cistus salviifolius L. – **D** – 550 m

42: *0815* [7].
Fumana bonapartei Maire & Petitm. – **F, H** – 995-1550 m
60: *1172* [7]; **108:** *1668* [7].
Helianthemum canum (L.) Baumg. subsp. ***canum*** – **F, H** – 1340-1600 m
5:4 *1056* [12]; **103:** *1605* [8].
Helianthemum nummularium (L.) Mill. subsp. ***nummularium*** – **A, F, H** – 1120-1600 m
18: *0374* [12]; **54:** *1063* [10]; **64:** *1275* [6]; **103:** *1584* [12].
Helianthemum nummularium subsp. ***glabrum*** (W. D. J. Koch) Wilczek – **H** – 1450-1550 m
108: *1666* [10].

Compositae

Achillea abrotanoides (Vis.) Vis. – **A, E, H** – 1340-2265 m
1: *0022a* [1]; **25:** *0464* [6]; **28:** *0507* [16]; **45:** *0922a* [6]; **76:** *1434* [11]; **103:** *1587* [6]; **108:** *1637* [3].
Achillea ageratifolia (Sm.) Benth. & Hook. f. subsp. ***ageratifolia*** – **H** – 1640 m
109: *1679* [1].
Achillea chrysocoma Friv. – **A** – 1685-1880 m
8: *0196* [11]; **9:** *0247* [6].
Achillea clavennae L. – **H** – 1450-1550 m
108: *1632* [11].
Achillea distans subsp. ***tanacetifolia*** (Fiori) Janch. – **H** – 1490 m
72: *1416* [4].
Achillea fraasii Sch. Bip. – **E** – 1935 m
46: *0933* [4], *0948* [1].
Achillea grandifolia Friv. – **H** – 1490 m
72: *1415* [8].
Achillea holosericea Sm. – **B, E, F** – 1320-1935 m
13: *0347* [5]; **46:** *0935* [4]; **54:** *1088* [1]; **55:** *1107* [8].
Achillea lingulata Waldst. & Kit. – **H** – 2000 m
82: *1508* [5].
Achillea nobilis subsp. ***neilreichii*** (A. Kern.) Velen. – **D, F** – 405-790 m
39: *0763* [8]; **52:** *1014* [4].
Achillea seidlii J. Presl & C. Presl – **A, C, D** – 790-1515 m
20: *0406* [10]; **37:** *0699* [10]; **39:** *0767* [10].
Amphoricarpos autariatus subsp. ***bertisceus*** Blečić & E. Mayer – **H** – 565-1640 m
69: *1406* [2]; **109:** *1677* [6].
Antennaria dioica (L.) Gaertn. – **A, H** – 1655-2000 m
9: *0241* [3]; **28:** *0508* [1]; **82:** *1505* [12].
Anthemis arvensis L. – **A, D** – 790-1250 m
6: *0160* [2]; **39:** *0762* [11].
Anthemis cretica subsp. ***tenuiloba*** (DC.) Grierson – **E** – 1935-2345 m
44: *0892* [8]: **46:** *0947* [3].

Artemisia alba Turra – **F** – 1015-1100 m
56: *1144* [6].
Aster alpinus L. – **F** – 1810 m
53: *1045* [7].
Asteriscus aquaticus (L.) Less. – **D** – 160 m
43: *0857* [10].
Bellis perennis L. – **B** – 1250 m
15: *0358* [10].
Bombycilaena erecta (L.) Smoljan. – **E** – 1325 m
50: *0975* [3].
Carduus kerneri subsp. ***scardicus*** (Griseb.) Kazmi – **A, F** – 1600-2010 m
2: *0049* [11]; **54:** *1087* [4].
Carduus nutans subsp. ***leiophyllus*** (Petrović) Stoj. & Stef. – **D** – 695 m
40: *0800* [17].
Carduus tmoleus Boiss. (cf.) – **A, B** – 1630-1685 m
8: *0200* [10]; **11:** *0325* [7].
Carlina acanthifolia subsp. ***utzka*** (Hacq.) Meusel & Kästner – **C** – 1325 m
37: *0697* [8].
Carlina vulgaris L. – **H** – 565 m
69: *1397* [9].
Carthamus lanatus L. – **D** – 160 m
43: *0855* [3].
Centaurea calocephala Willd. – **F** – 1810 m
53: *1043* [2].
Centaurea deusta subsp. ***concolor*** (DC.) Hayek – **G** – 520-700 m
65: *1284* [18]; **67:** *1340* [21].
Centaurea deusta Ten. s.l. (aff.) – **F** – 1600 m
54: *1083* [9].
Centaurea deusta Ten. s.l. (***Centaurea albanica*** Bornm.) – **A, D, E, F, H** – 1740-2010 m
2: *0119* [2]; **42:** *0809* [16]; **47:** *0951* [13]; **50:** *0973* [4]; **56:** *1137* [9], *1138* [12]; **62:** *1182* [19]; **69:** *1389* [1]; **83:** *1518* [8].
Centaurea dichroantha A. Kern. – **G** – 700 m
67: *1342* [7].
Centaurea kosaninii Hayek – **F** – 980-1100 m
56: *1132* [19]; **59:** *1166* [17].
Centaurea nervosa Willd. – **H** – 2000 m
82: *1498* [3].
Centaurea rupestris L. – **C** – 1085 m
35: *0652* [7].
Centaurea salonitana Vis. – **D** – 695 m
40: *0794* [16].
Cirsium appendiculatum Griseb. – **A** – 1250-2010 m
2: *0073* [1]; **6:** *0148* [12].
Cirsium boujartii subsp. ***wettsteinii*** Petr. – **G** – 700 m
67: *1367* [1].

Cirsium italicum DC. – **D** – 160 m
43: *0841* [1].
Cirsium rivulare (Jacq.) All. – **H** – 1690 m
76: *1431* [10].
Cota triumfettii (L.) J. Gay – **A, B** – 1630-1655 m
11: *0336* [9]; **28:** *0516* [5].
Crepis sp. – **H** – 2000 m
82: *1501* [3].
Crepis aurea (L.) Cass. – **B** – 1630-2000 m
11: *0315* [7]; **82:** *1502* [4].
Crepis biennis L. – **H** – 1490 m
72: *1417* [5].
Crepis foetida subsp. ***rhoeadifolia*** (M. Bieb.) Čelak. – **D** – 790 m
39: *0756* [17].
Crepis neglecta L. – **D, E** – 550-1350 m
42: *0812* [2]; **50:** *0977* [8].
Crepis nicaeensis Pers. – **F** – 1120-1145 m
64: *1267* [11].
Crepis viscidula Froel. subsp. ***viscidula*** – **A, C, H** – 1475-2000 m
25: *0467* [6]; **36:** *0686* [16]; **82:** *1503* [10].
Crupina crupinastrum (Moris) Vis. – **C** – 1325 m
37: *0696* [8].
Crupina vulgaris Cass. – **F** – 1120-1145 m
64: *1251* [9].
Cyanus adscendens (Bartl.) Soják – **F** – 1810 m
53: *1046* [4].
Cyanus pindicola (Griseb.) Soják – **E** – 2265-2345 m
44: *0896* [6]; **45:** *0918* [4].
Doronicum austriacum subsp. ***giganteum*** (Griseb.) Stoj. & Stef. – **B** – 1630 m
11: *0338* [12].
Erigeron acris L. – **A** – 1515 m
20 *0408* [1].
Erigeron annuus (L.) Desf. – **G** – 370 m
68: *1369* [2].
Eupatorium cannabinum L. – **H** – 565 m
69: *1385* [10].
Filago arvensis L. – **D** – 695 m
40: *0799* [5].
Filago germanica (L.) Huds. – **D, E, F, G** – 370-1600 m
42: *0819* [3]; **52:** *1015* [11]; **54:** *1059a* [3]; **56:** *1159* [3]; **68:** *1370* [30].
Filago pyramidalis – **D** – 695 m
40: *0798* (specimen lost).
Gnaphalium diminutum Braun-Blanq. (***Gnaphalium hoppeanum*** subsp. ***magellense*** (Fiori) Strid) – **H** – 2000 m
99: *1567* [7].

Gnaphalium pichleri Murb. – **H** – 1640 m
109: *1680* [4].
Gnaphalium sylvaticum L. – **H** – 1650-1880 m
86: *1534* [1].
Hieracium albanicum **Freyn** subsp. ***albanicum*** – **H** – 1450-1550 m
108: *1635* [0] (det. GG).
Hieracium bifidum subsp. ***canitiosum*** (Malme) Zahn – **F** – 1810 m
53: *1047* [7] (det. GG).
Hieracium bifidum subsp. ***sinuosifrons*** (Dahlst.) Zahn – **A** – 1655-1880 m
9: *0238* [0]; **26:** *0478* [15]; **28:** *0506* [9] (det. GG).
Hieracium bifidum subsp. ***stenolepis*** (Lindeb.) Zahn – **A** – 1670 m
23: *0447* [1] (det. GG).
Hieracium chalcidicum subsp. ***divaricatum*** (Fr.) Greuter – **E** – 1675 m
48: *0956* [10] (det. GG).
Hieracium glabratum subsp. ***nudum*** Nägeli & Peter – **F** – 1810 m
53: *1041* [1] (det. GG).
Hieracium guglerianum Zahn subsp. ***guglerianum*** – **F** – 795 m
57: *1161* [6] (det. GG).
Hieracium murorum subsp. ***oblongum*** (Jord.) Zahn – **C** – 1475 m
36: *0669* [6] (det. GG).
Hieracium pannosum subsp. ***eumecobrachium*** Zahn – **A** – 1685-1880 m
9: *0245* [4] (det. GG).
Hieracium rotundatum Schult. (subsp. ?) – **H** – 1720 m
77: *1443* [16] (det. GG).
Hieracium rotundatum subsp. ***praecurrens*** (Vuk.) Gottschl. & Brandst. – **A, H** – 1530-1880 m
29: *0522* [22]; **83:** *1522* [4] (det. GG).
Hieracium villosum Jacq. subp. ***villosum*** – **A, F, H** – 565-1600 m
28: *0510* [6]; **54:** *1076* [1]; **55:** *1094* [9]; **69:** *1391* [10]; **103:** *1576* [0] (det. GG).
Homogyne alpina (L.) Cass. – **H** – 2000 m
82: *1489* [8].
Hypochaeris maculata L. – **F, G, H** – 405-2000 m
54: *1081* [9]; **67:** *1329* [6]; **82:** *1509* [6].
Hypochaeris radicata L. – **F** – 405 m
52: *1020* [0].
Inula ensifolia L. – **F, G** – 520-1145 m
64: *1191* [16]; **65:** *1295* [8]; **67:** *1327* [5].
Inula hirta L. – **F** – 1120-1320 m
55: *1119* [7]; **64:** *1274* [2].
Inula oculus-christi L. – **B, F** – 1015-1360 m
13: *0346* [6]; **55:** *1120* [4]; **56:** *1133* [2]; **64:** *1274a* [2].
Jurinea mollis subsp. ***glycacantha*** (Sm.) Hayek – **G** – 700 m
67: *1368* [0].
Jurinea mollis (L.) Rchb. subsp. ***mollis*** – **F, H** – 1450-1600 m
54: *1085* [24]; **108:** *1626* [20].

Lactuca muralis (L.) Gaertn. – **A, H** – 565-1250 m
6: *0147* [0]; **69:** *1407* [1].
Lactuca pancicii (Vis.) N. Kilian & Greuter – **H** – 1590 m
74: *1425* [11].
Lactuca perennis L. – **H** – 1450-1550 m
108: *1676a* [5].
Lapsana communis L. subsp. ***communis*** – **C** – 1475 m
36: *0688a* [17].
Leontodon biscutellifolius DC. – **A, F** – 1090-2010 m
2: *0043* [7]; **61:** *1180* [11].
Leontodon crispus Vill. – **C** – 1085 m
35: *0642* [10].
Leontodon hispidus subsp. ***hastilis*** (L.) Corb. – **A** – 1265 m
31: *0559* [8].
Leontodon hispidus L. subsp. ***hispidus*** – **A, H** – 1450-1685 m
8: *0203a* [4]; **108:** *1630* [6].
Leontopodium nivale subsp. ***alpinum*** (Cass.) Greuter – **A** – 1685-1880 m
9: *0240* [1].
Leucanthemum pallens (Perreym.) DC. (cf.) – **H** – 1690 m
76: *1432* [7].
Leucanthemum praecox (Horvatić) Villard (cf.) – **A, F, H** – 565-1600 m
31: *0549* [12]; **33:** *0573b* [3]; **54:** *1084* [?]; **69:** *1393* [8].
Onopordum acanthium L. – **D, G** – 505-790 m
39: *0761* [3]; **66:** *1307* [15].
Picris hieracioides L. – **G, H** – 565-700 m
67: *1359a* [2]; **69:** *1395* [9].
Pilosella bauhinii subp. ***magyarica*** (Peter) S. Bräut. – **A, C, D** – 550-1265 m
31: *0558* [10]; **35:** *0641* [14]; **42:** *0811* [6] (det. GG).
Pilosella biflora (Arv.-Touv.) Arv.-Touv. – **H** – 1650-1880 m
83: *1521* [5] (det. GG).
Pilosella cymosa (L.) F. W. Schultz & Sch. Bip. – **B** – 1630 m
11: *0339* [0] (det. GG).
Pilosella cymosa subsp. ***sabina*** (Sebast.) H. P. Fuchs – **A, E** – 1685-2345 m
9: *0251* [9]; **44:** *0911* [1]; **46:** *0950* [4] (det. GG).
Pilosella densiflora (Tausch) Soják – **B** – 1275 m
14: *0356* [4] (det. GG).
Pilosella guthnickiana (Hegetschw.) Soják – **H** – 1650-2000 m
82: *1510* [4]; **83:** *1517b* [0] (det. GG).
Pilosella hypeurya (Peter) Soják – **H** – 1690 m
76: *1433b* [7] (det. GG).
Pilosella piloselloides (Vill.) Soják subsp. ***piloselloides*** – **A, F, G** – 505-1250 m
6: *0182* [3]; **64:** *1206b* [1]; **66:** *1306* [1] (det. GG).
Pilosella piloselloides subsp. ***litoralis*** (Nägeli & Peter) Gottschl. – **A** – 1740-2010 m
2: *0035* [0] (det. GG).
Pilosella testimonialis (J. Hofm.) Gottschl. – **A, F, H** – 405-2000 m

8: *0198* [6]; **20:** *0407* [10]; **52:** *1021* [6]; **55:** *1089* [5]; **64:** *1240* [2]; ~~**76:**~~ *1433* [7];**-76:** *1433a* [7?]; **82:** *1500* [0] (det. GG).

Podospermum roseum (Waldst. & Kit.) Gemeinholzer & Greuter – **A, H** – 1740-2010 m
2: *0039* [11]; **82:** *1499* [2].

Ptilostemon afer (Jacq.) Greuter subsp. ***afer*** – **B, F** – 1175-1275 m
14: *0357* [2]; **63:** *1190* [10].

Pulicaria dysenterica subsp. ***uliginosa*** Nyman – **D** – 160 m
43: *0849* [15].

Reichardia macrophylla (Vis. & Pančić) Pančić – **H** – 1640 m
109: *1681* [8].

Scolymus hispanicus L. – **D** – 160 m
43: *0835* [13].

Scorzonera doriae Degen & Bald. – **F** – 1120-1145 m
64: *1200* [13].

Senecio squalidus subsp. ***rupestris*** (Waldst. & Kit.) Greuter – **A, E** – 1685-2345 m
9: *0242* [6]; **44:** *0891* [7].

Solidago virgaurea L. – **H** – 1450-1550 m
108: *1631* [1].

Tanacetum corymbosum (L.) Sch. Bip. – **F** – 1600 m
54: *1086* [5].

Tanacetum larvatum (Pant.) Hayek – **A, H** – 1640-2010 m
2: *0062* [9]; **26:** *0473* [5]; **109:** *1678* [6].

Taraxacum (sect. ***Alpestria***) sp. – **A** – 1655 m
28: *0515* [2].

Taraxacum (sect.***Crocea***) sp. sex. – **A** – 1740-2010 m
1: *0009* [2]; **2:** *0096* [1].

Taraxacum (sect. ***Erythrosperma***) sp. – **E** – 2345 m
44: *0895* [14].

Taraxacum pindicum Kirschner & Štěpánek – **A** – 1740-2010 m
2: *0036* [10].

Taraxacum umbrosum Sonck & al. – **A** – 2000 m
1: *0009a* [6].

Telekia speciosa (Schreb.) Baumg. – **H** – 1540 m
73: *1424* [11].

Tephroseris papposa (Rchb.) Schur subsp. ***papposa*** – **F** – 1810 m
53: *1036* [4].

Tolpis staticifolia (All.) Sch. Bip. – **H** – 1450-1550 m
108: *1636* [15].

Tragopogon samaritanii Boiss. – **D** – 790 m
39: *0768* [8].

Tripleurospermum tenuifolium (Kit.) Freyn – **H** – 1265 m
92: *1544* [4].

Willemetia stipitata (Jacq.) Dalla Torre – **H** – 1965 m
80: *1461* [8].

Xeranthemum annuum L. – **D** – 695 m

40: *0793* [24].
Xeranthemum cylindraceum Sm**. – F –** 1120-1145 m
64: *1212* [13].

Convolvulaceae

Convolvulus arvensis L. – **A, D –** 790-1515 m
20: *0409* [3]; **39:** *0753* [20].
Convolvulus cantabrica L. – **F –** 1120-1145 m
64: *1249b* [10].
Convolvulus elegantissimus Mill. – **F, G –** 520-1145 m
64: *1249a* [2]; **65:** *1302* [4].
Cuscuta epithymum (L.) L. – **C, G –** 700-1085 m
35: *0610* [1]; **67:** *1338* [1].

Cornaceae

Cornus mas L. – **D –** 790 m
39: *0728* [17].
Cornus sanguinea L. subsp. ***sanguinea*** **– D –** 790 m
39: *0716* [16].

Corylaceae

Carpinus betulus L. – **D –** 790 m
39 *0715* [12].
Carpinus orientalis Mill. – **D –** 790 m
39 *0714* [12], *0739* [17].
Corylus avellana L. – **D, H –** 790-1690 m
39 *0737* [15]; **94** *1548* [13].
Corylus colurna L. (cf.) **– H –** 1490 m
100 *1570* [6].
Ostrya carpinifolia Scop. – **F –** 405 m
52 *1030* [12].

Crassulaceae

Sedum acre L. – **D, F –** 695-1320 m
40: *0789* [3]; **55:** *1131* [13]; **56:** *1143* [5].
Sedum album subsp. ***athoum*** (DC.) Maire & Petitm. – **A, C, D, F** – 695-2010 m
2: *0099* [6]; **35:** *0623* [3]; **40:** *0790* [4]; **54:** *1065* [2]; **64:** *1222* [8].
Sedum annuum L. – **E –** 1935 m

46: *0928* [3].
Sedum atratum L. – **H** – 2000 m
87: *1538* [2].
Sedum cepaea L. – **C** – 1475 m
36: *0679* [11].
Sedum grisebachii Boiss. & Heldr. – **A** – 1640-1880 m
3: *0120* [4]; **9:** *0256* [2].
Sedum magellense subsp. ***olympicum*** (Boiss.) Greuter & Burdet – **H** – 1450-1550 m
108: *1657* [5].
Sedum ochroleucum Chaix – **B, C, F** – 1085-1360 m
13: *0351* [6]; **35:** *0578* [11]; **55:** *1129* [7].
Sedum sexangulare L. – **H** – 1340 m
103: *1574* [10].
Sedum urvillei DC. – **B, C, F** – 1085-1360 m
13: *0351a* [1], *0352* [5]; **35:** *0631* [2]; **64:** *1238* [7].
Sempervivum marmoreum Griseb. – **H** – 2000 m
82: *1506* [1].

Cruciferae

Aethionema saxatile (L.) W. T. Aiton subsp. ***saxatile*** – **F** – 1120-1320 m
55: *1127* [5]; **64:** *1213a* [3].
Alyssum alyssoides (L.) L. – **C, F** – 1085-1320 m
35: *0649* [5]; **55:** *1127a* [1]; **64:** *1213b* [1].
Alyssum chalcidicum Janka (***A. elatius*** F. K. Mey.) – **A, C, D, F** – 405-1655 m
3: *0129* [8]; **28:** *0490* [16]; **35:** *0643* [7]; **40:** *0773* [13]; **52:** *1029* [7].
Alyssum murale Waldst. & Kit. (s.l.) – **G** – 700 m
67: *1318* [12].
Alyssum repens Baumg. – **A, F** – 1120-1880 m
9: *0257* [7]; **23:** *0454* [4]; **55:** *1116* [4]; **64:** *1213* [3].
Alyssum smolikanum subsp. ***serpentinicola*** (F. K. Mey.) Pils – **A** – 1740-2010 m
1: *0011* [12], *0020* [3]; **2:** *0105* [12], *0106* [10].
Arabis alpina L. – **A, H** – 1685-1880 m
9: *0262* [6]; **22:** *0424* [7]; **77:** *1447* [8].
Arabis collina Ten. – **H** – 1450-1550 m
108: *1676* [10].
Arabis hirsuta var. ***sagittata*** (Bertol.) DC. – **B, F** – 1120-1695 m
10: *0287* [3]; **64:** *1276* [8].
Aubrieta gracilis subsp. ***albanica*** (F. K. Mey. & J. E. Mey.) Greuter, **comb. & stat. nov.** (≡ *Aubrieta albanica* F. K. Mey. & J. E. Mey. in Haussknechtia, Beiheft 15: 62. 2011). – **E** – 2345 m
44: *0880* [7].
Aurinia corymbosa Griseb. – **A** – 1515-1655 m
18: *0372* [13]; **28:** *0500* [17].

Barbarea balcana Pančić – **A** – 1640-1685 m
3: *0133* [1]; **8:** *0201a* [1]; **8:** *0493* [2].
Bornmuellera baldaccii subsp. ***rechingeri*** Greuter – **A** – 1740-2010 m
1: *0019* [15]; **2:** *0086* [14].
Cardamine bulbifera (L.) Crantz – **A, B** – 1630-1710 m
11: *0330* [25]; **22:** *0444* [1].
Cardamine carnosa Waldst. & Kit. – **E** – 2265 m
45: *0914* [5] (det. KM).
Cardamine enneaphyllos (L.) Crantz – **B** – 1630 m
11: *0328* [9].
Cardamine glauca DC. – **A, G** – 700-2000 m
1: *0015* [7]; **2:** *0063* [5]; **32:** *0565* [13]; **67:** *1331* [7] (det. KM).
Cardamine impatiens L. – **H** – 1340-1390 m
104: *1613* [11] (det. KM).
Cardamine matthioli Moretti – **B, H** – 1695-1965 m
10: *0289* [11]; **80:** *1480* [9] (det. KM).
Cardamine plumieri Vill. (cf.) – **A** – 1740-2010 m
2: *0064* [6] (det. KM).
Draba lasiocarpa Rochel – **A, E, F** – 1600-2345 m
1: *0002* [5]; **28:** *0498* [1]; **44:** *0878* [4]; **54:** *1070* [3].
Erysimum cuspidatum (M. Bieb.) DC. – **D** – 790 m
39: *0703* [9].
Erysimum kuemmerlei Jáv. – **A, B, E, F** – 405-2345 m
8: *0201* [4]; **9:** *0223* [3]; **10:** *0286* [1]; **11:** *0329* [11]; **19:** *0405a* [6]; **28:** *0488* [13]; **44:** *0873* [15]; **52:** *1013* [6]; **55:** *1125a* [14], *1130* [1]; **64:** *1225* [9].
Erysimum linariifolium Tausch – **D** – 790 m
39: *0705* [12].
Erysimum microstylum Hausskn**.** – **A** – 1685-1880 m
9: *0222* [11].
Iberis sempervirens L. – **A, E, H** – 1450-2345 m
2: *0074* [9]; **9:** *0275* [9]; **44:** *0876* [3]; **108:** *1669* [12].
Iberis umbellata L. – **D** – 695 m
40: *0774* [12].
Kernera saxatilis (L.) Sweet – **H** – 1450-1550 m
108: *1673* [1].
Lepidium campestre (L.) W. T. Aiton – **A** – 1275 m
32: *0562* [10].
Phyllolepidum rupestre (Sweet) Trinajstić – **E** – 2345 m
44: *0877* [10].
Rorippa pyrenaica (All.) Rchb. – **A** – 1740-2010 m
2: *0065* [3].
Rorippa sylvestris (L.) Besser – **D** – 790 m
39: *0711* [32].
Sinapis arvensis L. – **D** – 790 m
39: *0710* [9].

Dipsacaceae

Knautia drymeia Heuff. – **A, D** – 790-1710 m
22: *0427* [11]; **33:** *0574* [6]; **39:** *0740* [16].
Knautia integrifolia (L.) Bertol. – **D** – 160 m
43: *0840* [8].
Knautia macedonica Griseb. – **G** – 700 m
67: *1330* [18].
Lomelosia crenata (Cirillo) Greuter & Burdet – **C, H** – 565-1325 m
7: *0700* [14]; **69:** *1394* [1].
Lomelosia graminifolia (L.) Greuter & Burdet – **H** – 1450-1550 m
108: *1629* [18].
Scabiosa tenuis Boiss. – **D** – 695-790 m
39: *0765* [13]; **40:** *0797* [6].
Scabiosa triniifolia Friv. – **F** – 825-1100 m
56: *1134* [14]; **58:** *1164* [6].
Scabiosa velenovskyana Bobrov – **A, F, H** – 1320-1775 m
21: *0415* [14]; **55:** *1097* [8]; **55:** *1106* [9]; **103:** *1579* [6].
Scabiosa webbiana D. Don – **A, B, D, E** – 550-1360 m
33: *0573c* [11]; **13:** *0348* [4]; **42:** *0810* [5], **50:** *0969* [1].

Ericaceae

Arctostaphylos uva-ursi (L.) Spreng. – **H** – 1390-1640 m
107: *1621* [7]; **109:** *1684* [4].
Erica arborea L. – **D** – 550 m
42: *0803* [6].
Erica carnea L. – **A, F** – 1320-2000 m
1: *0013* [16]; **55:** *1113* [15].
Vaccinium myrtillus L. – **H** – 1965-2000 m
81: *1486* [10].
Vaccinium uliginosum L. – **H** – 1965-2000 m
81: *1485* [9].

Euphorbiaceae

Euphorbia amygdaloides L. – **A, D, H** – 790-1710 m
4: *0146a* [14]; **5:** *0146a* [14]; **6:** *0174* [9]; **22:** *0435* [1]; **39:** *0726* [7].
Euphorbia capitulata Rchb. – **H** – 1640 m
109: *1682* [10].
Euphorbia glabriflora Vis. – **A, C, F, G** – 520-1090 m
6: *0187* [6]; **35:** *0617* [12]; **61:** *1176* [15]; **65:** *1297* [6].
Euphorbia herniariifolia Willd. – **E** – 2345 m
44: *0875* [3].

Euphorbia myrsinites L. – **A, C, E** – 1085-1880 m
9: *0225* [13]; **22:** *0429* [3]; **35:** *0614* [6]; **50:** *0978* [5].
Euphorbia nicaeensis All**.** – **G** – 520 m
65: *1296* [12].
Euphorbia seguieriana subsp. ***niciciana*** (Borbás ex Novák) Rech. f. – **C, D** – 550-1085 m
35: *0634* [15]; **39:** *0724* [8]; **39:** *0759* [5]; **42:** *0816* [11].
Euphorbia stricta L. – **A** – 1265-1275 m
31: *0556* [10]; **32:** *0566* [20].
Euphorbia taurinensis All. – **D** – 790 m
39: *0771o* [2].

Fagaceae

Fagus sylvatica L. – **A, H** – 1250-1340 m
6: *0189* [1], *159a* [11]; **103:** *1612* [6].
Quercus cerris L. – **D, F** – 160-1145 m
43: *0836* [11], *0858* [9]; **52:** *1017* [4]; **64:** *1248* [19].
Quercus frainetto Ten. – **D, F** – 405-790 m
39: *0717* [11]; **52:** *1018* [14].
Quercus pubescens Willd. – **G** – 520-700 m
65: *1292* [18]; **67:** *1366* [13].
Quercus trojana Webb – **D** – 635 m
41: *0801* [11].

Gentianaceae

Centaurium erythraea Rafn subsp. ***erythraea*** – **F** – 1120-1145 m
64: *1273* [9].
Centaurium erythraea subsp. ***rumelicum*** (Velen.) Melderis – **D, F, G** – 160-790 m
39: *0723* [3]; **43:** *0824* [4],**52:** *0993* [12]; **65:** *1280* [11].
Gentiana cruciata L. – **A** – 1300 m
30: *0523* [11].
Gentiana dinarica Beck – **H** – 1965 m
80: *1479* [1].
Gentiana lutea L. (cf.) – **H** – 1450-1550 m
108: *1624* [1].
Gentiana utriculosa L. – **H** – 1450-1690 m
76: *1429* [12]; **108:** *1656* [3].
Gentiana verna subsp. ***tergestina*** (Beck) Haye***k*** – **A, E** – 1740-2345 m
1: *0016* [2] **2:** *0041* [3] **44:** *0861* [6].

Geraniaceae

Geranium aristatum Freyn & Sint**.** – **A, C** – 1475-1655 m
28**:** *0504* [9]; ***36*****:** *0653* [10].
Geranium asphodeloides Burm. f. – **A** – 1265 m
31: *0555* [13].
Geranium macrorrhizum L. – **A** – 1685-1880 m
9: *0285a* [21]; **22:** *0419* [16].
Geranium pyrenaicum Burm. f. – **A** – 1265-1880 m
9: *0280* [4]; **18:** *0371* [13]; **31:** *0534* [10]; **31:** *0555a* [0].
Geranium reflexum L. – **A, H** – 1590-1710 m
22: *0419a* [14]; **97:** *1561* [2].
Geranium robertianum L. – **B** – 1630 m
11: *0332* [10].
Geranium sanguineum L. – **A, F** – 1015-1600 m
4: *0142* [2]; **54:** *1067* [5]; **56:** *1147* [2]; **64:** *1270* [6].
Geranium subcaulescens DC. – **A, E** – 1655-1935 m
9: *0236* [12]; **23:** *0450* [3]; **28:** *0485* [4]; **46:** *0923* [2].
Geranium sylvaticum L. – **A, H** – 1475-2000 m
9: *0277* [13]; **81:** *1484* [9]; **84:** *1525* [4]; **93:** *1546* [15].
Geranium versicolor L. – **C** – 1475 m
36: *0663* [10].

Globulariaceae

Globularia bisnagarica L**.** – **F** – 1120-1145 m
m
64: *1195* [4].
Globularia meridionalis (Podp.) O. Schwarz – **A, F** – 1600-2000 m
1: *0030* [2]; **54:** *1071* [1].

Hypericaceae

Hypericum barbatum Jacq. – **A, B, F, H** – 1320-1880 m
9: *0250* [3]; **10:** *0302* [1]; **19:** *0405* [5]; **22:** *0436* [3]; **55:** *1117* [5]; **70:** *1411* [7]; **83:** *1517* [0]; **83:** *1523* [7].
Hypericum ermelindarum Greuter – **A** – 1250 m
6: *0175* [10].
Hypericum perforatum L. – **A, C, D, F, H** – 565-1320 m
32: *0560* [5]; **35:** *0630* [13]; **39:** *0727 ;* 13]; **52:** *0995* [3]; **55:** *1111* [5]; **64:** *1223* [7]; **69:** *1401* [4].
Hypericum richeri subsp. ***grisebachii*** (Boiss.) Nyman – **H** – 2000 m
82: *1487* [18]; **85:** *1527* [3].
Hypericum rumeliacum subsp. ***apollinis*** (Boiss. & Heldr.) N. Robson & Strid – **A** –

1740-2010 m
2: *0084* [6].

Juglandaceae

Juglans regia L. **– H –** 565 m
69: *1376* [10].

Labiatae

Ajuga reptans L. **– B –** 1340-1880 m
12: *0342* [17]; **83:** *1520* [0]; **106:** *1619* [4].
Lamium garganicum L. subsp. ***garganicum*** **– C, E –** 1085-1935 m
35: *0577* [14]; **36:** *0665* [2]; **46:** *0927* [12].
Melissa officinalis subsp. ***altissima*** (Sm.) Arcang. **– D –** 160 m
43: *0827* [7].
Mentha pulegium L. **– D, F –** 160-405 m
43: *0831* [3]; **52:** *0999* [5].
Mentha spicata L. **– H –** 565 m
69: *1400* [4].
Nepeta nuda L. **– B, H –** 1250-1265 m
15: *0362* [6]; **101:** *1572* [7].
Origanum vulgare L. **– C –** 160-1145 m
35: *0622* [4]; **43:** *0851* [5]; **64:** *1197* [8]; **69:** *1399* [4].
Phlomis fruticosa L. **– E –** 1325 m
50: *0962* [13].
Prunella grandiflora (L.) Scholler **– D –** 790 m
39: *0718* [11].
Prunella laciniata (L.) L. **– F, G –** 405-520 m
52: *1001* [14]; **65:** *1289* [2].
Prunella laciniata (L.) L. × ***Prunella grandiflora*** (L.) Scholler **– A –** 1250 m
6: *0178* [13].
Prunella vulgaris L. **– A, G –** 700-1515 m
20: *0410* [8]; **67:** *1358* [9].
Salvia amplexicaulis Benth. **– F, G –** 700-1145 m
64: *1206* [11]; **67:** *1360* [9].
Salvia pratensis L. **– E –** 1230 m
51: *0980* [5].
Salvia ringens Sm. **– D, F –** 695-1090 m
40: *0778* [11]; **60:** *1169* [20]; **61:** *1175* [1].
Salvia verticillata L. **– C, F –** 1120-1475 m
36 :*0667* [11]; **64:** *1208* [11].
Satureja acinos (L.) Scheele **– F –** 1015-1100 m

56: *1145* [1].

Satureja alpina subsp. ***albanica*** (Kümmerle & Jáv.) Greuter & Burdet – **A, E, H** – 1450-2265 m
9: *0221* [1]; **108:** *1665* [3]; **45:** *0922c* [8].

Satureja alpina subsp. ***meridionalis*** (Nyman) Greuter & Burdet – **A** – 1740-2010 m
1: *0029* [2]; **2:** *0056* [3].

Satureja grandiflora (L.) Scheele – **A, B, H** – 1490-1710 m
11: *0340* [7]; **12:** *0343* [9]; **22:** *0432* [9]; **71:** *1412* [12].

Satureja inodora Host *(**Micromeria parviflora*** Rchb.) – **H** – 1640 m
109: *1686* [6].

Satureja majoranifolia (Miller) K. Malý – **F** – 1015-1175 m
56: *1142* [8]; **63:** *1187* [20].

Satureja montana subsp. ***variegata*** (Host) P. W. Ball – **F** – 1120-1145 m
64: *1207* [10].

Satureja suaveolens (Sm.) Watzl – **F** – 1600 m
54: *1072* [2].

Satureja subspicata Bartl. ex Vis. – **H** – 565 m
69: *1405* [3].

Satureja vulgaris (L.) Fritsch subsp. ***vulgaris*** – **A** – 405-1710 m
11: *0341* [10]; **22:** *0440* [7]; **39:** *0751* [6]; **55:** *1091* [10]; **52:** *1000* [9].

Scutellaria alpina L. – **H** – 1450-1550 m
108: *1670* [0].

Scutellaria columnae All. – **D** – 790 m
39: *0745* [1].

Scutellaria orientalis L. – **F** – 825 m
58: *1163* [13].

Sideritis montana L. – **A, F** – 1120-1275 m
32: *0564* [9]; **64:** *1220* [14].

Sideritis raeseri Boiss. & Heldr. subsp. ***raeseri*** – **E** – 1325 m
50: *0968* [1].

Stachys alopecuros (L.) Benth. – **A, H** – 1340-1550 m
4: *0143* [3]; **103:** *1578* [6].

Stachys germanica L. – **F** – 1120-1145 m
64: *1255* [3].

Stachys germanica subsp. ***tymphaea*** (Hausskn.) R. Bhattacharjee – **A, E, H** – 1640-1935 m
3: *0125* [13]; **8:** *0194* [11]; **46:** *0950b* [9]; **78:** *1452* [9].

Stachys recta L. (s.l.) – **F, H** – 1320-1550 m
55: *1093* [15]; **103:** *1583* [0]; **108:** *1640* [12].

Stachys recta subsp. ***atherocalyx*** (K. Koch) Stoj. & Stef. (cf.) – **F** – 1015-1100 m
56: *1155* [16].

Stachys scardica (Griseb.) Hayek – **F** – 1120-1145 m
64: *1230* [10]; **64:** *1254* [7].

Teucrium capitatum L. – **D** – 160 m
43: *0823* [6].

Teucrium chamaedrys L. – **D** – 790 m

39: *0743* [7].
Teucrium chamaedrys var. illyricum Borb. & Bornm. – **F** – 1320 m
55: *1103* [8].
Teucrium chamaedrys var. illyricum Borb. & Bornm. et var. ***glanduliferum*** Hausskn. p.p. – **F, H** – 565-1145 m
64: *1228* [6]; **69:** *1382* [10].
Teucrium montanum L – **D** – 520-1250 m
6: *0181* [2]; **42:** *0814* [3]; **64:** *1207a* [1]; **64:** *1239* [7]; **65:** *1287* [3].
Thymus sp. – **A** – 2000 m
1: *0018* [12].
Thymus ciliatopubescens (Halácsy) Halácsy – **A, E** – 1685-2345 m
8: *0192* [11]; **9:** *0216* [10]; **44:** *0883* [7].
Thymus praecox subsp. ***zygiformis*** (Heinr. Braun ex Wettst.) Jalas – **A, H** – 1675-2010 m
1: *0028* [2]; **2:** *0059* [8]; **21:** *0412* [9]; **79:** *1457* [12].
Thymus pulegioides L. – **E** – 2265 m
45: *0913* [9].
Thymus teucrioides Boiss. & Spruner subsp. ***teucrioides*** – **A** – 695-1250 m
6: *0185* [8]; **40:** *0781* [4].
Thymus teucrioides subsp. ***alpinus*** Hartvig – **A** – 1740-2010 m
2: *0053* [4].

Leguminosae

Anthyllis sp. – **A** – 1740-2010 m
2: *0042* [11].
Anthyllis aurea Welden & Host – **F** – 160 m
54: *1057* [15].
Anthyllis montana L. – **A, E** – 1685-1880 m
9: *0206* [7]; **47:** *0953* [4].
Anthyllis vulneraria L. – **C, F** – 1085-1320 m
35: *0645* [7]; **55:** *1113* [9].
Astragalus – **E** – 1935-2345 m
44: *0872* [10]; **45:** *0915* [6]; **46:** *0946* [3].
Astragalus depressus L. – **A** – 1475-1880 m
9: *0232* [6]; **36:** *0655* [7].
Astragalus glycyphyllos L. – **C** – 1475 m
36: *0675* [6].
Astragalus onobrychis L. – **C** – 1475 m
36 :*0662* [10].
Bituminaria bituminosa (L.) C. H. Stirt. – **B** – 160-560 m
16: *0365* [2]; **43:** *0843* [10].
Cercis siliquastrum – **D** – 160 m
43: *0859* [10].
Chamaecytisus – **F** – 1015-1320 m

55: *1110* [6]; **56:** *1139* [4]; **56:** *1156* [11]2; **64:** *1268* [10].

Chamaecytisus supinus (L.) Link – **A, C, F, G** – 1250 m
2: *0038* [4]; **6:** *0186* [3]; **36:** *0658* [7]; **56:** *1136* [3]; **67:** *1344* [2].

Colutea arborescens L. subsp. ***arborescens*** – **G** – 700 m
67: *1325* [11].

Coronilla scorpioides (L.) W. D. J. Koch – **F** – 1090 m
61: *1178* [1].

Cytisus nigricans L. **subsp. *nigricans*** – **A, D, G** – 700-1275 m
32: *0563* [13]; **39:** *0704* [9]; **67:** *1319* [15]; **67:** *1320* [12].

Dorycnium herbaceum Vill. – **A, C, F** – 1085-1550 m
4: *0137* [8]; **6:** *0183* [11]; **35:** *0627* [13]; **55:** *1112* [5].

Dorycnium hirsutum (L.) Ser. – **D** – 550 m
42: *0818* [11].

Dorycnium pentaphyllum subsp. ***germanicum*** (Gremli) Gams – **C, F** – 1120-1475 m
36: *0661* [14]"; **4:** *1266* [12].

Galega officinalis L. – **D** – 790 m
39: *0712* [8].

Genista depressa M. Bieb. – **A** – 1685-1880 m
9: *0207* [4].

Genista hassertiana (Bald.) Buchegger – **F, G** – 520-1100 m
56: *1146* [6]; **65:** *1298* [9].

Genista radiata (L.) Scop. – **A** – 1740-2010 m
2: *0054* [13].

Genista sagittalis L. – **F** – 1320 m
55: *1128* [13].

Genista sylvestris Scop. subsp. ***sylvestris*** – **F** – 1320 m
55: *1109* [9].

Genista tinctoria L. – **G, H** – 700-2000 m
67: *1316* [8]; **82** *1488* [7].

Hippocrepis comosa L. – **A, F** – 1090-2010 m
2: *0047* [12]; **61:** *1181* [2].

Hippocrepis emerus subsp. ***emeroides*** (Boiss. & Spruner) Lassen – **D** – 695 m
40: *0775* [8].

Lathyrus digitatus (M. Bieb.) Fiori – **F** – 1600 m
54: *1059* [3].

Lathyrus laxiflorus (Desf.) Kuntze – **C** – 1475 m
36: *0654* [20].

Lathyrus nissolia L. – **A** – 1685-1880 m
9: *0260* [0].

Lathyrus palustris L. – **C** – 1085 m
35: *0647* [11].

Lathyrus pratensis L. – **A** – 1265 m
3:1 *0550* [13].

Lathyrus venetus (Mill.) Wohlf. – **A, C** – 1475-1710 m
2: *0425* [6]; **36:** *0656* [6].

Lotus alpinus (DC.) Ramond – **A** – 2000 m
1: *0014* [2].
Lotus corniculatus L. – **A, G** – 700-2010 m
2: *0071* [5]; **6:** *0157* [6]; **28:** *0501* [6]; **67:** *1317* [11].
Medicago falcata L. – **C, G** – 700-1085 m
35: *0646* [2]; **67:** *1321* [16].
Medicago lupulina L**.** – **A** – 1275 m
32: *0568* [14].
Medicago prostrata Jacq. – **F** – 1320 m
55: *1126* [10].
Medicago rigidula (L.) All**.** – **C** – 1085 m
35: *0583* [2].
Melilotus albus Medik. – **D** – 790 m
39: *0750* [3].
Melilotus officinalis (L.) Lam. – **D** – 790 m
39: *0752* [16].
Onobrychis arenaria (Kit.) DC. – **A, H** – 1685-1880 m
9: *0249* [18]; **108:** *1662* [17].
Onobrychis arenaria subsp. ***lasiostachya*** (Boiss.) Hayek – **F** – 1015-1320 m
55: *1108* [9]; **56:** *1152a* [3]; **64:** *1252* [3].
Ononis spinosa L. – **D** – 790 m
39: *0709* [7].
Robinia pseudoacacia L. – **G** – 700 m
67: *1326* [12].
Securigera varia (L.) Lassen – **F** – 1175 m
63: *1189* [6].
Trifolium alpestre L. – **A, C, F** – 1320-1880 m
9: *0270* [6]; **36:** *0657* [7]; **55:** *1123* [9].
Trifolium angustifolium L. – **D** – 790 m
39: *0708* [6].
Trifolium arvense L. – **D, F** – 405-695 m
40: *0776* [11]; **52:** *0982* [12].
Trifolium badium Schreb. – **H** – 1590-1650 m
97: *1559* [8].
Trifolium dubium Sibth. – **A** – 1550 m
4: *0138* [1].
Trifolium echinatum M. Bieb. – **D** – 160 m
43: *0825* [11].
Trifolium fragiferum L. – **F** – 405 m
52: *0987* [4].
Trifolium incarnatum L. – **D** – 790 m
39: *0706* [6].
Trifolium lappaceum L. – **F** – 405 m
52: *0988* [5].
Trifolium lucanicum Guss. – **C** – 1085 m

35: *0644* [12].
Trifolium medium L. – **F** – 405 m
52: *0986* [4].
Trifolium nigrescens Viv. – **D** – 550 m
42: *0820* [1].
Trifolium noricum Wulfen – **H** – 1450-1550 m
108: *1672* [3].
Trifolium ochroleucon Huds. – **C** – 1475 m
36: *0666* [15].
Trifolium patulum Tausch – **C, F, G** – 700-1475 m
36: *0659* [16]; **36:** *0688* [12]; **64:** *1247* [12]; **67:** *1322* [12].
Trifolium pilczii Adamović – **A** – 2000 m
1: *0010* [8].
Trifolium pratense L. – **A** – 1250-1685 m
6: *0169* [1]; **8:** *0203* [3].
Trifolium repens L. – **A, B** – 1640-1695 m
3: *0122* [1], *0130* [4]; **8:** *0202* [7]; **10:** *0309* [9]; **28:** *0496* [8].
Trifolium tenuifolium Ten. – **F** – 405 m
52: *0985* [9].
Trifolium velenovskyi Vandas – **H** – 1650 m
75 :*1426* [11].
Vicia cassubica L. – **H** – 1590-1650 m
97: *1560* [4].
Vicia cracca subsp. ***incana*** (Gouan) Rou***y*** – **A, C** – 1475-1880 m
9: *0214* [15]; **23:** *0446* [8]; **36:** *0676* [10].
Vicia sepium L.**** – **H** – 1590-1650 m
97: *1557* [16].

Lentibulariaceae

Pinguicula balcanica Casper – **H** – 1965 m
80: *1468* [3].
Pinguicula hirtiflora Ten. – **A, C, H** – 565-2010 m
2: *0069* [5]; **6:** *0168* [8]; **35:** *0591* [4]; **69:** *1386* [5].

Linaceae

Linum bienne Mill. – **F, G** – 520-1145 m
64: *1214* [10]; **65:** *1301* [2].
Linum catharticum L. – **A, H** – 1265-1550 m
31: *0553* [4]; **108:** *1661* [6].
Linum elegans Boiss. – **A** – 1740-2010 m
2: *0087* [3].

Linum hirsutum L. – **G** – 700 m
67 :*1347* [17].
Linum nodiflorum L. – **D** – 160 m
43: *0852* [5].
Linum pubescens Banks & Sol. – **F** – 980 m
59: *1165* [15].
Linum punctatum subsp. ***pycnophyllum*** (Boiss. & Heldr.) Gustavsson – **A** – 740-2010 m
2: *0040* [6], *0077* [2].
Linum tauricum subsp. ***albanicum*** (Janch.) Greuter & Burdet – **F** – 1320 m
55: *1121* [7].
Linum tenuifolium L. – **C, F** – 1085-1320 m
35: *0635* [1]; **55:** *1115* [6].
Linum trigynum L. – **F** – 405 m
52: *1024* [4].

Lythraceae

Lythrum salicaria L. – **D** – 790 m
39: *0748* [6].

Malvaceae

Alcea biennis subsp. ***cretica*** (Weinm.) Valdés – **H** – 565 m
69: *1409* [0].
Althaea hirsuta L. – **F** – 1015-1100 m
56: *1140* [1].
Lavatera thuringiaca L. (***Malva thuringiaca*** (L.) Vis.) – **G, H** – 565-700 m
67: *1345* [12]; **69** *1408* [9].
Malva moschata L. – **H** – 1490 m
71: *1414* [7].

Moraceae

Ficus carica L. – **G** – 700 m
67: *1349* [11].

Morinaceae

Morina persica L. – **C, E** – 1325-1720 m
37: *0698* [15]; **47:** 0954 [13].

Oleaceae

Forsythia europaea Degen & Bald. – **F, G** – 405-700 m
52: *1010* [14]; **67** *1315* [8].
Fraxinus ornus L. – **D, G, H** – 565-700 m
40: *0796* [3]; **67** *1365* [1]; **69** *1388a* [11].
Ligustrum vulgare L. – **F** – 405 m
52: *1012* [12].
Phillyrea latifolia L. – **D** – 550 m
42: *0804* [6].

Onagraceae

Epilobium anagallidifolium Lam. – **H** – 1965 m
80: *1481* [1].
Epilobium angustifolium L. – **E** – 1675 m
48: *0955* [10].
Epilobium gemmascens C. A. Mey. (cf.) – **A** – 1655 m
28: *0502* [2].
Epilobium montanum L. – **B, H** – 1590-1650 m
11: *0331* [7]; **97** *1558* [10].

Orobanchaceae

Orobanche – **H** – 1450-1550 m
108: *1664* [1].
Orobanche alba Willd. – **A** – 1685-1880 m
9: *0220* [11] (det. GD).
Orobanche gracilis Sm. – **F** – 1600 m
54: *1066* [3] (det. GD).
Orobanche hederae Duby – **F** – 1120-1320 m
55: *1098* [12]; **64** *1215* [2] (det. GD).
Orobanche minor Sm. – **C** – 1085 m
35: *0612* [2] (det. GD).
Orobanche reticulata Wallr. – **A** – 1265 m
1: *0557* [6] (det. GD).
Phelipanche mutelii (F. W. Schultz) Pomel – **C** – 1085 m
35: *0639* [1] (det. GD).
Phelipanche purpurea (Jacq.) Soják – **A** – 1640 m
3: *0126* [5] (det. GD).

Paeoniaceae

Paeonia saueri D. Y. Hong al**. – H –** 1340 m
103: *1577* [11].

Papaveraceae

Chelidonium majus L. **– H –** 1340-1390 m
104: *1617* [2].
Corydalis densiflora C. Presl **– E –** 2345 m
44: *0869* [1].
Papaver rhoeas L. **– C, D, F –** 790-1165 m
38: *0701* [7]; **39:** *0720* [8]; **64:** *1199* [0].

Plantaginaceae

Plantago argentea Chaix **– F, G, H –** 700-1550 m
55: *1095* [9]; **67:** *1324* [9]; **108:** *1652* [3].
Plantago holosteum Scop. **– A, F, G –** 520-2000 m
1: *0022* [3]; **64:** *1202* [9]; **65:** *1283* [7]; **67:** *1314* [10].
Plantago lanceolata L. **– B, D –** 695-1630 m
11: *0319* [4]; **40:** *0785* [6].
Plantago lanceolata var. sphaerostachya Mert. & W. D. J. Koch **– F –** 405 m
52: *0990* [4].
Plantago major L. **– D –** 160 m
43: *0832* [8].
Plantago media L. **– A –** 2000 m
1: *0006* [18].
Plantago media subsp. ***pindica*** (Hausskn.) Greuter & Burdet (cf.) **– A –** 1740-2010 m
2: *0088* [1].

Plumbaginaceae

Acantholimon albanicum O. Schwarz & F. K. Mey. **– C –** 1085 m
35 *0593* [10].
Armeria canescens (Host) Boiss. **– A, E; F –** 1740-2345 m
1: *0025* [11]; **2:** *0058* [9; **8:** *0195* [7]; **9:** *0248* [3]; **44:** *0867* [15]; **46:** *950e* [6]; **53:** *1035* [4].

Polygalaceae

Polygala alpestris subsp. ***croatica*** (Chodat) Hayek **– A, E –** 1740-2345 m

2: *0061* [3]; **44:** *0874* [3].
Polygala nicaeensis subsp. ***mediterranea*** Chodat (cf.) – **A, F, H** – 405-1880 m
6: *0184* [4]; **9:** *0272* [8]; **28:** *0482* [8]; **52:** *0983* [14]; **103:** *1605a* [1]; **109:** *1685* [6].
Polygala doerfleri Hayek – **F, G** – 520-1145 m
60: *1172a* [12]; **64:** *1194* [5]; **65:** *1294* [18]; **67:** *1323* [9].

Polygonaceae

Persicaria alpina (All.) H. Gross – **A** – 1740-2010 m
2: *0045* [9].
Persicaria vivipara (L.) Ronse Decr. – **H** – 2000 m
87: *1535* [3].
Polygonum aviculare L. – **F** – 1120-1145 m
64: *1193* [8].
Rumex acetosa L. – **A** – 1685-1880 m
9: *0269* [7].
Rumex acetosella L. subsp. ***acetosella*** – **A, H** – 1655-2000 m
28: *0513* [9]; **79:** *1455* [6]; **85:** *1526* [2].
Rumex acetosella subsp. ***acetoselloides*** (Balansa) Den Nijs – **A** – 1515-1600 m
19: *0403* [9].
Rumex acetosella subsp. ***multifidus*** (L.) Schübl. & G. Martens – **A** – 1640 m
3: *0124* [6].
Rumex alpinus L. (***Rumex pseudoalpinus*** Höfft) – **E, H** – 1815-2345 m
44: *0870* [1]; **84:** *1524* [8].
Rumex arifolius All. – **B** – 1630 m
11: *0310* [10].
Rumex crispus L. – **F** – 405 m
52: *1023* [3].
Rumex nebroides Campd. – **E** – 2345 m
44: *0862* [3].
Rumex scutatus L. – **A** – 1740-2010 m
2: *0060* [3].

Primulaceae

Lysimachia dubia Aiton – **G** – 520 m
65: *1286* [4].
Lysimachia nummularia L. – **F** – 405 m
52: *0981* [20].
Lysimachia punctata L. – **D** – 790 m
39: *0719* [10].
Primula veris subsp. ***columnae (Ten.) Lüdi*** – **A, E** – 1685-1935 m
8: *0191* [12]; **46:** *0941* [4].

Soldanella chrysosticta Kress – **A** – 1740-2010 m
2: *0095* [2].

Pyrolaceae

Orthilia secunda (L.) House – **H** – 1340 m
105: *1618* [6].
Pyrola minor L. – **A** – 1515-1545 m
18: *0370* [4].

Ranunculaceae

Aconitum lycoctonum subsp. ***neapolitanum*** (Ten.) Nyman – **H** – 1650-1880 m
95: *1553* [0].
Caltha palustris L. – **B, H** – 1695-1720 m
10: *0291* [13]; **77:** *1448* [13].
Caltha palustris L. – **H** – 1965 m
80: *1463* [12].
Clematis flammula L. – **F** – 405 m
52: *1022* [9].
Clematis integrifolia L. – **F** – 1600 m
54: *1079* [1].
Clematis vitalba L**.** – **D, G** – 695-700 m
40: *0791* [10]; **67:** *1332* [9].
Consolida regalis Gray – **F** – 1120-1145 m
64: *1192* [3].
Helleborus multifidus Vis. – **F** – 1120-1145 m
64: *1250* [5].
Helleborus odorus subsp. ***cyclophyllus*** (A. Braun) Maire & Petitm. – **C** – 1250-1880 m
36: *0694* [6]; **9:** *0260a* [1]; **15:** *0360* [13].
Nigella damascena L. – **F** – 1015-1145 m
56: *1149* [13]; **64:** *1245* [9].
Ranunculus acris L. – **C** – 1085 m
35: *0632* [5].
Ranunculus brevifolius Ten. – **E** – 2345 m
44: *0890* [2].
Ranunculus circinatus Sibth. (cf.) – **A** – 1655 m
28: *0481* [11].
Ranunculus demissus DC. – **E** – 2345 **44:** *0907* [1].
Ranunculus platanifolius L. – **A** – 1685-1880 m
9: *0233* [10].
Ranunculus platanifolius L. – **H** – 1720 m
77: *1439* [9].

Ranunculus polyanthemos subsp. ***polyanthemoides*** (Boreau) Ahlfv. (cf.) – **B, F, H** – 1600-2000 m
11: *0324* [11]; **54:** *1054* [8]; **80:** *1482* [10]; **85:** *1529* [4].
Ranunculus polyanthemos subsp. ***nemorosus*** (DC.) Schübl. & G. Martens – **A, E, H** – 1640-2345 m
9: *0271* [3]; **44:** *0897* [12]; **77:** *1440* [13]; **109:** *1683* [2].
Ranunculus polyanthemos subsp. ***polyanthemophyllus*** (W. Koch & H. E. Hess) Baltisb. – **A** – 1740-2010 m
1: [11]; **2:** *0085* [4].
Ranunculus repens L. – **A, C, H** – 1475-1880 m
28: *0505* [7]; **36:** *0691* [12]; **95:** *1552* [9].
Ranunculus serbicus Vis. – **C** – 1085-1475 m
35: *0629* [1]; **36:** *0693* [11].
Ranunculus thora L. – **H** – 1450-1550 m
108: *1663* [2].
Thalictrum aquilegiifolium L. – **A** – 1670 m
26: *0471* [11].
Thalictrum minus L. – **A** – 565-2010 m
2: *0046* [9]; **67:** *1346* [5]; **91:** *1543* [4]; **108:** *1634* [18]; **69:** *1390* [11].
Trollius europaeus L. – **H** – 1720 m
77: *1446* [13].

Resedaceae

Reseda lutea L. – **D** – 790 m
39: *0713* [17].
Reseda luteola L. – **D, F** – 790-1100 m
39: *0754* [0]; **56:** *1135* [10].

Rhamnaceae

Frangula alnus Mill. – **G** – 505 m
66: *1311* [14].
Frangula rupestris (Scop.) Schur – **F** – 1600 m
54: *1077* [5].
Paliurus spina-christi Mill. – **D** – 160 m
43: *0837* [10].
Rhamnus alpina subsp. ***fallax*** (Boiss.) Maire & Petitm. – **H** – 1450-1550 m
108: *1647* [6]; **23:** *0452* [9]; **103:** *1595* [8].
Rhamnus cathartica L. – **F** – 1120-1145 m
64: *1236* [23].

Rosaceae

Agrimonia eupatoria L. subsp. ***eupatoria*** – **A, F** – 1120-1265 m
31: *0551* [3]; **64:** *1272* [10].
Alchemilla amphisericea Buser – **A** – 1685-1880 m
9: *0208* [11].
Alchemilla gracilis Opiz (cf.) – **H** – 2000 **99:** *1566* [6].
Alchemilla heterotricha Rothm**.** – **A** – 1515-1545 m
18: *0368* [11].
Alchemilla plicatula Gand. [incl. ***A. velebitica*** (Janch.) Degen] – **A** – 1670-1880 m
9: *0224* [8]; **26:** *0474* [4].
Alchemilla xanthochlora Rothm. – **A** – 1685-1880 m
9: *0279* [11].
Amelanchier ovalis Medik**.** – **F** – 1320 m
55: *1100* [14].
Aria edulis (Willd.) M. Roem. – **A, H** – 1450-1550 m
108: *1645* [8] (det. FMR).
Aria graeca (Spach) M. Roem. – **F** – 1320-1880 m
9: *0219* [12]; **55:** *1104* [4] (det. FMR).
Aruncus dioicus (Walter) Fernald – **H** – 1490 m
71: *1413* [13].
Cotoneaster pyrenaicus Gand. – **F, H** – 1320-1340 m
55: *1101* [7]; **103:** *1597* [10].
Cotoneaster tomentosus (Aiton) Lindl. – **H** – 1450-1550 m
108: *1650* [8].
Crataegus monogyna Jacq. – **D** – 160 m
43: *0839* [11].
Crataegus orientalis M. Bieb. – **A, E** – 1265-1620 m
31: *0533* [10]; **49:** *0957* [14].
Dryas octopetala L. – **F** – 1810 m
53: *1034* [4].
Fragaria vesca L. – **A** – 1250 m
6: *0171* [3].
Geum bulgaricum Pančić – **H** – 1450-1550 m
108: *1675* [4].
Geum coccineum Sm. – **A** – 1515-1655 m
18: *0369* [20]; **28:** *0483* [14].
Geum montanum L. – **H** – 2000 m
99: *1564* [6].
Geum rivale L. – **H** – 1590-1650 m
97: *1562* [10].
Geum urbanum L. – **A, F** – 1120-1640 m
3: *0131* [9]; **64:** *1269* [5].
Malus pumila Mill. – **D** – 790 m
39: *0771a* [20].

Potentilla argentea L. – **D** – 790 m
39: *0707* [9].
Potentilla crantzii (Crantz) R. M. Fritsch – **A** – 1740-2010 m
2: *0097* [6]; **2:** *0098* [6]; **1:** *0017* [5].
Potentilla crantzii (Crantz) R. M. Fritsch var. – **H** – 2000 m
82: *1505a* [5]; **99:** *1565* [2].
Potentilla erecta (L.) Räusch. – **A, G** – 520-1250 m
6: *0156* [6]; **65:** *1288* [1].
Potentilla hirta subsp. ***pedata*** (Willd.) Holmboe – **A, B** – 1515-1695 m
3: *0132* [7]; **10:** *0288* [12]; **18:** *0373* [13].
Potentilla hirta var. ***laeta*** (Focke) Th. Wolf – **F** – 1120-1145 m
64: *1224* [3].
Potentilla micrantha **DC. var.** – **A** – 1740-2010 m
2: *0080* [12].
Potentilla speciosa **Willd. var.** ***speciosa*** – **F, H** – 1450-1600 m
54: *1069* [16]; **108:** *1643* [2].
Prunus avium **(L.) L.** – **G** – 700 m
67: *1364* [14].
Prunus cerasifera **Ehrh.** – **A, F, G** – 370-1250 m
33: *0572* [13]; **52:** *1031* [12]; **68:** *1371* [20].
Prunus domestica **L.** (cf.) – **A** – 1250 m
6: *0180* [14].
Prunus webbii **(Spach) Vierh.** (cf.) – **H** – 1265 m
101: *1571* [20].
Prunus mahaleb L. – **C** , F – 1085-1145 m
35: *0589* [14]; **64:** *1219* [12].
Pyrus communis subsp. ***pyraster*** (L.) Ehrh. – **A, D, F** – 790-1320 m
6: *0179* [12]; **39:** *0725* [13]; **55:** *1105* [6]; **64:** *1231* [13].
Pyrus spinosa Forssk. – **E** – 1325 m
50: *0972* [20].
Rosa agrestis Savi – **D, E, F, H** – 405-1325 m
39: *0735* [6], *0736* [6]; **50:** *0963* [5]; **52:** *1006* [5], *1008* [4], *1009* [4]; **69:** *1375* [5]; **64:** *1263* [5] (det. EL).
Rosa arvensis Huds. – **F** – 405 m
52: *1007* [4] (det. EL).
Rosa canina L. – **A, C, F, G, H** – 520-1490 m
31: *0536* [4], *0537* [11]; **33:** *0573a* [4]; **35:** *0650* [4]; **64:** *1260* [4], *1265* [4]; **65:** *1304a* [3]; **89:** *1541* [4]; **103:** *1588* [5] (det. EL).
Rosa canina L. (or ***R.*** ×***subcanina*** (Christ) Vuk.) – **F** – 1320 m
55 *1122* [4] (det. EL).
Rosa corymbifera Borkh. – **A, F, G, H** – 520-1275 m
5: *0146* [13]; **34:** *0575* [6]; **64:** *1259* [2]; **65:** *1304b* [3]; **69:** *1374* [4] (det. EL).
Rosa micrantha Borrer ex Sm. – **C, E, F** – 1085-1325 m
35: *0651* [8]; **50:** *0965* [7]; **64:** *1257* [2] (det. EL).
Rosa mollis Sm**.** – **E, F** – 1320-1935 m

46: *0949* [9]; **55:** *1124* [7] (det. EL).
Rosa pendulina L. – **H** – 1340 m
103: *1590* [10] (det. EL).
Rosa pulverulenta M. Bieb. – **A, B, E, F** – 1685-1880 m
9: *0246* [3]; **15:** *0359* [5]; **23:** *0448* [5]; **33:** *0573* [4]; **45:** *0916* [5], *917* [3]; **50:** *0964* [4]; **64:** *1258* [3], *1262a* [1] (det. EL).
Rosa spinosissima L. – **F** – 1120-1600 m
64: *1264* [3]; **54:** *1080* [6] (det. EL).
Rosa tomentosa Sm. – **C, H** – 565-1475 m
36: *0695* [8]; **69:** *1375* [5] (det. EL).
Rosa villosa L. – **F, H** – 1120-1505 m
64: *1261* [2], *1262* [2]; **90:** *1542* [5]; **103:** *1589* [9] (det. EL).
Rubus canescens DC. – **B, D** – 790-1275 m
14: *0354* [7]; **39:** *0734* [6].
Rubus hirtus Waldst. & Kit. – **H** – 1340-1690 m
94: *1549* [10]; **103:** *1596* [5].
Rubus idaeus L. – **B, H** – 1340-1630 m
11: *0326* [6]; **103** *1603* [7].
Rubus sanctus Schreb. (incl. *Rubus ulmifolius* Schott) – **D, H** – 550-565 m
42: *0802* [9]; **69:** ***1373*** [15].
Sanguisorba minor subsp. ***balearica*** (Nyman) Muñoz Garm. & C. Navarro – **A, C, F** – 1015-1550 m
4: *0139* [1]; **35:** *0648* [3]; **56:** *1148* [8].
Sorbus aucuparia L. – **H** – 1390 m
107: *1623* [18].
Torminalis clusii K. R. Robertson & J. B. Phipps – **G** – 700 m
67: *1339* [12].

Rubiaceae

Asperula aristata L. f. – **A, G, H** – 700-1710 m
22: *0428* [9]; **25:** *0468* [2]; **67:** *1317a* [4], *1352* [3]; **108:** *1653* [5], *1667* [9].
Asperula cynanchica L. – **G, H** – 520-1540 m
65: *1278* [16]; **73:** *1422* [8].
Asperula doerfleri Wettst. – **E** – 2345 m
44: *0887* [9].
Asperula purpurea (L.) Ehrend. subsp. ***purpurea*** – **H** – 1340 m
103: *1582* [1].
Asperula scutellaris Vis. – **H** – 565 m
69: *1404* [44].
Cruciata laevipes Opiz – **A, B, C, D, E, H** – 790-1935 m
11: *0320* [14]; **22:** *0420* [9]; **31:** *0540* [5]; **36:** *0664* [3]; **39:** *0729* [4]; **46:** *950a* [10]; **77:** *1441* [7].
Galium anisophyllon Vill. (incl. ***G. plebejum*** Boiss & Heldr.) – **E** – 2345 m

44: *0879* [5].
Galium aparine L. – **F** – 1120-1145 m
64: *1232* [4].
Galium corrudifolium Vill. (incl.***G. macedonicum*** Krendl) (cf.) – **A, C, E, F, G** – 520-1935 m
22: *0441* [10]; **35:** *0582* [16]; **46:** *0926* [10]; **60:** *1171* [8]; **65:** *1290* [6]; **108:** *1655* [5].
Galium mollugo L. (s.l.) – **F** – 1600 m
54: *1053* [5].
Galium lucidum All. (incl. ***Galium oreophilum*** Krendl) – **F, G** – 700-1090 m
61: *1179* [10]; **67:** *1359* [7].
Galium odoratum (L.) Scop. – **C, H** – 1475-1720 m
36: *0672* [13]; **77:** *1449a* [7].
Galium parisiense L. – **A** – 1265-1655 m
28: *0499* [14]; **31:** *0544* [10].
Galium pseudaristatum Schur – **D** – 790m
39: *0741* [6].
Galium verum L. – **C, F** – 405-1085 m
35: *0581* [6]; **52:** *1003* [14].
Valantia aprica (Sm.) Boiss. & Heldr. – **E** – 2345 m
44: *0881* [12].

Rutaceae

Dictamnus albus L. – **F** – 980 m
59: *1167* [5].

Salicaceae

Populus alba L. – **C** – 1085 m
35: *0611* [15].
Populus tremula L. – **H** – 1390 m
107: *1622* [12].
Salix alba L. – **C** – 1085 m
35: *0618* [15].
Salix amplexicaulis Bory – **C** – 1085 m
35:-*0613* [12], *0615* [21].
Salix caprea L. – **H** – 1340-1550 m
103:-*1600* [10]; **108:***1649* [7].
Salix cinerea L. – **H** – 1490 m
100:-*1569* [5].
Salix eleagnos Scop. – **A** – 1265 m
31: *0529* [13].

Santalaceae

Thesium alpinum L. – **F** – 1015-1100 m
56: *1158* [1].
Thesium auriculatum Vandas – H – 1450-1550 m
108: *1674* [1].
Thesium divaricatum Mert. & W. D. J. Koch – **F** – 405 m
52: *0984* [15].
Thesium linophyllon L. – **H** – 565 m
69: *1404a* [?].

Saxifragaceae

Parnassia palustris L. – **H** – 565 m
69: *1398* [5].
Saxifraga paniculata Mill. – **A, E, F** – 1710-2345 m
9-*0261* [10]; **22:** *0431* [4]; **44:-***0868* [2]; **53:** *1049* [1].
Saxifraga rotundifolia L. – **A, B, H** – 1630-1720 m
11: *0314* [17]; **22:** *0438* [9]; **77:** *1442* [15].
Saxifraga scardica Griseb. – **E** – 2345 m
44: *0904* [5].
Saxifraga sempervivum K. Koch – **A** – 1685-1880 m
9: *0263* [10].
Saxifraga stellaris subsp. ***engleri*** P. Fourn. – **H** – 1965 m
80:-*1469* [9].
Saxifraga taygetea Boiss. & Heldr**.** – **A** – 1740-2010 m
1:-*0026* [4]; **2:-***0079* [8].

Scrophulariaceae (s.l.)

Digitalis ferruginea L. – **F** – 1120-1145 m
64: *1235* [2].
Digitalis grandiflora Mill. – **A, F, H** – 1550-1650 m
4: *0136* [5]; **54:** *1075* [1]; **75:** *1427* [12].
Digitalis viridiflora Lindl. – **A** – 1675-1775 m
21: *0414* [10].
Euphrasia liburnica Wettst. – **A** – 1675-1775 m
21: *0411* [3].
Euphrasia minima DC. – **B** – 1695 m
10: *0299* [28].
Euphrasia pectinata Ten. – **A, B, F** – 1120-1250 m
15: *0361* [13]; **17** *0367* [4]; **31:** *0542* [15]; **33:** *0570* [13]; **64:** *1234* [6], *1234a* [2].
Euphrasia salisburgensis Funck – **F** – 1320 m
55: *1102* [10].

Linaria alpina (L.) Mill. – **E** – 2345 m
44: *0882* [9].
Linaria peloponnesiaca Boiss. & Heldr**.** – **A, C, H** – 565-2010 m
2: *0052* [2]; **9:** *0217* [6]; **35:** *0580* [6]; **69:** *1379* [7].
Melampyrum scardicum Wettst. – **H** – 1650-1880 m
95: *1555* [1].
Microrrhinum minus (L.) Fourr. – **D** – 790 m
39: *0771p* [0].
Pedicularis brachyodonta subsp. ***grisebachii*** (Wettst.) Hayek – **A, F** – 1685-1880 m
9: *0204* [6]; **53:** *1044* [1].
Pedicularis brachyodonta subsp. ***montenegrina*** (Nyman) D. A. Webb (cf.) – **E** – 2345 m
44: *0884* [2].
Pedicularis petiolaris Ten. – **A** – 1740-2010 m
2: *0037* [2].
Rhinanthus mediterraneus (Sterneck) Adamović – **A** – 1710 m
22: *0423* [5].
Rhinanthus melampyroides (Borbás & Degen) Soó – **H** – 1450-1550 m
108: *1659* [12].
Rhinanthus minor L. – **A** – 1265 m
31: *0552* [9].
Rhinanthus pindicus (Sterneck) Soó – **A, C** – 1085-1190 m
17: *0366* [13]; **35:** *0587* [8].
Rhinanthus rumelicus Velen. – **H** – 1690 m
76: *1430* [15].
Scrophularia canina subsp. ***bicolor*** (Sm.) Greuter – **A, D** – 695-1275 m
32: *0569* [8]; **39:** *0749* [7]; **40:** *0777* [5].
Scrophularia canina subsp. ***tristis*** (K. Malý) V. Nikolić – **C** – 1085 m
35: *0584* [12].
Scrophularia heterophylla subsp. ***laciniata*** (Waldst. & Kit.) Maire & Petitm. [var. ***alpina*** (Heuff.) Hayek] – **H** – 1450-1550 m
108: *1654* [9].
Scrophularia heterophylla subsp. ***laciniata*** (Waldst. & Kit.) Maire & Petitm. [var. ***multifida*** (Willd.) Hayek] – **E** – 2345 m
44: *0889* [20].
Scrophularia nodosa L. – **B** – 1630 m
11: *0322* [10].
Verbascum banaticum Schrad. – **H** – 565 m
69: *1388* [10].
Verbascum glabratum subsp. ***bosnense*** (K. Malý) Murb. (cf.) – **F** – 995 m
60: *1173* [?].
Verbascum glabratum subsp. ***brandzae*** (D. Brândză) Murb. – **H** – 1340-1390 m
106: *1620* [3].
Verbascum longifolium Ten. – **A** – 1640-1935 m
3: *0127* [12]; **8:** *0193* [13]; **46:** *0944* [5]; **78:** *1450* [9].
Verbascum nigrum L. (cf.) – **D** – 790 m

39: *0760* [10].

Verbascum nigrum subsp. ***abietinum*** (Borbás) I. K. Ferguson – **F** – 1015-1100 m
56: *1157* [8].

Verbascum sinuatum L. (cf.) – **D** – 160 m
43: *0830* [8].

Veronica andrasovskyi Jáv. – **G** – 520-700 m
65: *1300* [1]; **67:** *1343* [1].

Veronica austriaca L. – **F** – 1120-1145 m
64: *1204* [23].

Veronica beccabunga L. – **A** – 1265 m
31: *0545* [6].

Veronica chamaedrys L. subsp. ***chamaedrys*** – **A, C, E, H** – 1475-1935 m
22: *0434* [10]; **36:** *0668* [13]; **46:** *0943* [11]; **77:** *1438* [7].

Veronica officinalis L. – **H** – 1540 m
73: *1423* [13].

Veronica orsiniana Ten**.** – **A, E** – 1740-2265 m
1: *0003* [6]; **2:** *0051* [9]; **45:** *0922b* [4].

Veronica urticifolia Jacq. – **H** – 1720 m
77: *1449* [17].

Wulfenia baldaccii Degen – **H** – 1770 m
70: *1410* [1].

Solanaceae

Atropa belladonna L. – **H** – 1210 m
110: *1687* (specimens lost).

Datura stramonium L. – **G** – 520 m
65: *1304* [11].

Hyoscyamus niger L. – **F** – 1175 m
63: *1186* [12].

Thymelaeaceae

Daphne oleoides Schreb. – **A, E, H** – 1685-2010 m
1: *0005* [13]; **2:** *0057* [2]; **2:** *0083* [8]; **9:** *0226* [4]; **46:** *0929* [7]; **108:** *1646* [6].

Tiliaceae

Tilia rubra DC. (vel ***platyphyllos*** var.?) – **H** – 1290 m
102: *1573* [9].

Ulmaceae

Ulmus glabra Huds. – **H** – 1060 m
112: *1690* [9].
Ulmus minor subsp. ***canescens*** (Melville) Browicz & Ziel. – **D** – 160 m
43: *0838* [9].

Umbelliferae

****Bunium tenerum*** Hausskn. – **A** – 1550 m
4: *0140* [4].
Ammoides pusilla (Brot.) Breistr. – D – 160 m
43: 0854 [2].
Anthriscus cerefolium (L.) Hoffm**.** – **F** – 1120-1145 m
64: *1229* [13].
Athamanta albanica Alston & Sandwith – **D** – 695 m
40: *0787* [2].
Athamanta turbith subsp. ***haynaldii*** (Borbás & R. Uechtr.) Tutin – **A** – 1685-1880 m
9: *0237* [9]; **25:** *0466* [1].
Bupleurum karglii Vis. – **E, H** – 565-1325 m
50: *0974* [4]; **69:** *1392* [8].
Bupleurum veronense Turra – **F, G** – 405-1145 m
52: *0994* [12]; **64:** *1226* [5]; **65:** *1279* [16].
Carum graecum subsp. ***serpentinicum*** Hartvig – **C** – 1085 m
35: *0636* [13].
Carum rupestre Boiss.& Heldr. – **A, B, E, F, H** – 1650-2265 m
2: *0067* [6]; **10:** *0290* [11]; **28:** *0512* [1]; **45:** *0920* [5]; **46:** *0925* [3]; **53:** *1042* [5].
Chaerophyllum aromaticum L. – **H** – 1650 m
75: *1428* [10].
Chaerophyllum aureum L. – **C, H** – 1475-1815 m
36: *0689* [11]; **76:** *1437* [2]; **78:** *1453* [11].
Chaerophyllum coloratum L. – **F** – 1120-1145 m
64: *1209* [13].
Chaerophyllum hirsutum L. – **H** – 1650-1880 m
76: *1436* [5]; **86:** *1528* [4].
Eryngium creticum Lam. – **D** – 160 m
43: *0856* [20].
Geocaryum capillifolium (Guss.) Coss. – **A, B** – 1630-1775 m
11: *0337* [8]; **21:** *0416* [1].
Heracleum sphondylium subsp. ***pyrenaicum*** (Lam.) Bonnier & Layens – **E** – 1620 m
49: *0958* [6].
Laserpitium latifolium L. – **G** – 700 m
67: *1328* [15].
Malabaila aurea (Sm.) Boiss. – **C** – 1085 m

35: *0640* [3].
Meum athmanticum (cf.) – **H** – 1650-2000 m
82: *1512* [6]; **86:** *1532* [8].
Orlaya daucoides (L.) Greuter – **F** – 1320 m
55: *1092* [14].
Orlaya daucorlaya Murb. – **D, F** – 790-1145 m
39: *0764* [7]; **64 :***1218* [12].
Orlaya grandiflora (L.) Hoffm. – **E** – 1325 m
50: *0960* [12].
Pimpinella serbica (Vis.) Drude – **H** – 1720 m
77: *1445* [19].
Pimpinella tragium Vill. subsp.? – **H** – 1450-1550 m
108: *1638* [11].
Pimpinella tragium subsp. ***lithophila*** (Schischk.) Tutin – **B, H** – 1340-1360 m
13: *0350* [4]; **103:** *1581* [13].
Torilis arvensis (Huds.) Link subsp. ***arvensis*** – **D, E** – 160-1325 m
39: *0766* [8]; **43:** *0853* [2]; **50:** *0979* [16].
Trinia glauca (L.) Dumort. subsp. ***glauca*** – **H** – 1450-1550 m
108 *1625* [12].

Urticaceae

Parietaria officinalis L. – **H** – 565 m
69: *1383* [4].
Urtica dioica L. – **A** – 1640 m
3: *0128* [6].

Valerianaceae

Centranthus longiflorus subsp. ***junceus*** (Boiss. & Heldr.) I. Richardson – **D** – 695 m
40: *0788* [15].
Valeriana crinii Boiss. (cf.) – **E** – **2265-**2345 m
44: *0893* [5]; **45:** *0919* [9].
Valeriana montana L. – **A** – 1450-2010 m
2: *0033* [13]; **9:** *0205* [8]; **53:** *1033* [3]; **108:** *1628* [5].
Valeriana officinalis subsp. ***collina*** (Wallr.) Nyman – **H** – 1340 m
103: *1598* [1].
Valeriana officinalis L. subsp. ***officinalis*** – **A** – 1670 m
26: *0472* [10].

Verbenaceae

Verbena officinalis L. – **G** – 700 m

67: *1348* [9].

Violaceae

Viola aetolica Boiss. & Heldr. – **A, F, H** – 1320-1965 m
9: *0254* [1]; **55:** *1125* [14]; **98:** *1563* [9] (det. ME).
Viola albanica Halácsy **– A, E** – 1740-2345 m
2: *0094* [10]; **44:** *0866* [6] (det. ME).
Viola biflora L. – **A** – 1740-2010 m
2: *0034* [2] (det. ME).
Viola dukadjinica W. Becker & Košanin – **A** – 1740-2010 m
2: *0048* [10] (det. ME).
Viola orphanidis Boiss. – **A** – 1675-1775 m
21: *0413* [22] (det. ME).
Viola riviniana Rchb. – **H** – 565 m
69: *1403* [9] (det. ME).

Vitaceae

Vitis vinifera subsp. ***sylvestris*** (Willd.) Hegi **– G –** 505 m
66: *1309* [14].

Monocotyledones

Araceae

***Arum cylindraceum Gasp.* – F –** 1120-1145 m
64: *1201* [12].

Cyperaceae

Blysmus compressus (L.) Link **– A, B, C, H –** 1085-1965 m
6: *0152* [17]; **10:** *0305* [26]; **28:** *0491* [3]; **35:** *0588* [3]; **80:** *1471* [7].
Carex buekii Wimm. var. (cf.) **– A –** 1250 m
6: *0153* [1], *0154* [4].
Carex cuprina (Heuff.) A. Kern. **– F –** 405 m
52: *1002* [2].
Carex davalliana Sm. **– A –** 1740-2010 m
2: *0066* [7].
Carex demissa Hornem. **– A –** 1250 m
6: *0167* [4].
Carex distans L. **– A, F –** 1250-1265 m

31: *0546* [9]; **6:** *0149* [6]; **62:** *1185* [3].
Carex divulsa Stokes – **F** – 405 m
52: *0992* [2].
Carex echinata Murray – **A, B, H** – 1250-1970 m
6: *0151* [12], *0164* [8]; **10:** *0298* [9]; **19:** *0386* [12]; **28:** *0480* [9]; **79:** *1456* [14]; **80:** *1464* [3].
Carex ferruginea Scop. – **A, F** – 1015-2010 m
2: *0117* [5]; **56:** *114B* [7].
Carex flacca subsp. ***serrulata*** (Spreng.) Greuter – **C, G** – 520-1085 m
35: *0590* [16]; **65:** *1283a* [0].
Carex hirta L. – **A, B, C** – 1265-1695 m
10: *0300* [11], *0304* [5]; **28:** *0497* [8], *0517* [8]; **31:** *0538* [14]; **36:** *0673* [9].
Carex kitaibeliana Bech. – **A, E, F, H** – 1515-2345 m
1: *0001* [7].
Carex kitaibeliana Bech. – **A, E, F** – 1740-2010 m
2: *0114* [7]; **9:** *0209* [11]; **19:** *0400* [11]; **44: ;** *885* [8]; **54:** *1073* [3]; **108:** *1660* [33].
Carex lepidocarpa Tausch – **A, F, H** – 1120-1600 m
19: *0396* [9]; **64:** *19A* [2]; **80:** *1475* [2];
Carex leporina L. – **A, B, H** – 1250-2000 m
6: *0166* [5]; **10:** *0303* [17]; **28:** *0492* [12]; **82:** *1511a* [5], *1516* [3].
Carex muricata L. – **A, E** – 1515-1935 m
19: *0390* [4]; **46:** *0931* [10].
Carex nigra (L.) Reichard – **A, H** – 1965-2000 m
1: *0027* [10]; **80:** *1465* [4], *1470* [4].
Carex pallescens L. – **A, B, H** – 1265-1965 m
10: *0308* [10]; **28:** *0494* [3]; **31:** *0543* [5]; **80:** *1460* [5].
Carex paniculata L. – **A, B, H** – 1250-1690 m
6: *0165* [8], *0172* [11]; **10:** *0307* [7]; **19:** *0384a* [0]; **28:** *487* [6]; **31:** *0547* [5]; **94:** *1547* [10].
Carex remota L. – **A, H** – 1250-1490 m
6: *0155* [6]; **72:** *1418* [8].
Carex sempervirens Vill. – **E, H** – 1720-2000 m
47: *0952* [5]; **81:** *1483* [8].
Carex spicata Huds**.** – **A, H** – 565-1600 m
19: 0398 [9]; **28:** *0503* [15]; **69:** *1378* [3].
Carex sylvatica Huds. – **A, H** – 1265-1490 m
31: *0548* [7]; **72:** *1419* [6].
Carex vesicaria L. – **A** – 1655 m
28: *0495* [16].
Carex viridula Michx**.** – **A** – 1250 m
6: *0150* [4].
Eleocharis palustris (L.) R. Br. – **A, B** – 1655-1695 m
10: *0306* [1]; **28:** *0489* [3], *0519* [13].
Eriophorum angustifolium Honck. – **A, B, H** – 1250-2010 m
2: *0055* [6]; **6:** *0162* [7]; **10:** *0301* [3]; **19:** *0384* [4]; **80:** *1472* [3].

Schoenus nigricans L. – **C, D, F, G** – 520 m
35: *0592* [6]; **43:** *0833* [8]; **62:** *1184* [15]; **65:** *1285* [11].
Scirpus sylvaticus L. – **A** – 1515-1600 m
19: *0395* [15].

Dioscoreaceae

Dioscorea communis (L.) Caddick & Wilkin – **G** – 505 m
66: *1313* [2].

Gramineae

Achnatherum calamagrostis (L.) P. Beauv. – **F, G, H** – 565-1145 m
64: *1205* [9]; **67:** *1351* [1]; **69:** *1384* [14], *1402* [10].
Agrostis castellana Boiss. & Reut. – **G** – 700 m
67: *1335* [6].
Agrostis rupestris All. – **H** – 2000 m
82: *1497* [9].
Aira elegantissima Schur – **A** – 1265 m
31: *0554* [4].
Alopecurus gerardi Vill. – **H** – 2000 m
82: *1491* [11].
Anthoxanthum odoratum L. – **A, H** – 1515-2000 m
1: *0021* [6]; **9:** *0235* [5]; **19:** *0376* [6]; **96:** *1556* [3].
Bellardiochloa variegata (Lam.) Kerguélen – **A** – 1685-1880 m
9: *0259* [11].
Bothriochloa ischaemum (L.) Keng – **D** – 160-1265 m
31: *0526* [3]; **39:** *0771e* [5]; **43:** *0842* [5], *0847* [2]; **67:** *1353* [7].
Brachypodium sylvaticum (Huds.) P. Beauv. – **D, F** – 405-1175 m
39: *0771b* [6]; **52:** *0997* [2]; **63:** *1188* [10]; **64:** *1271* [8].
Briza media L. – **A, C, F** – 1085-1265 m
31: *0525* [9]; **35:** *0599* [9]; **64:** *1256* [9].
Bromus arvensis L. – **D, G** – 505-790 m
6: *1313a* [2]; **39:** *0738* [19], *0771h* [10]
Bromus cappadocicus Boiss. & Balansa subsp. ***cappadocicus*** – **F** – 1600 m
54: *1061* [3].
Bromus cappadocicus subsp. ***lacmonicus*** (Hausskn.) P. M. Sm. – **F** – 1120-1145 m
64: *1217* [6].
Bromus hordeaceus L. – **A, B** – 1515-1630 m
11: *0311* [16]; **19:** *0404* [5].
Bromus riparius Rehmann – **G** – 700 m
67: *1334* [6].
Bromus secalinus L. – **D** – 550 m

42: *0807* [5].
Bromus squarrosus L. – **A, D, F** – 695-1600 m
7: 0190 [4]; **19:** *0387* [17]; **40:** *0780* [6]; **64:** *1233a* [1], *1243* [8].
Bromus sterilis L. – **E** – 1120-1325 m
50: *0959* [9]; **64:** *1233* [2].
Calamagrostis pseudophragmites (Haller f.) Koeler (cf.) – **A, F** – 1090-1265 m
31: *0535* [10]; **61:** *1174* [3].
Catapodium rigidum (L.) C. E. Hubb. – **H** – 565 m
69: *1377* [5].
Chrysopogon gryllus (L.) Trin. – **D, G** – 505-550 m
42: *0813* [7]; **65:** *1281* [16]; **66:** *1308* [8].
Cynosurus cristatus L. – **A** – 1515-1600 m
19: *0379* [6].
Cynosurus echinatus L. – **A, F** – 1015-1600 m
19: *0397* [14]; **56:** *1141* [5].
Cynosurus polybracteatus Poir. (cf.) – **B** – 1695 m
10: *0296* [8].
Dactylis glomerata subsp. ***hispanica*** (Roth) Nyman – **C** – 1085-1630 m
11: *0323* [6]; **19:** *0389* [10]; **35** *0600* [6].
Danthonia alpina Vest – **F** – 1600 m
54:*1074* [8].
Danthonia decumbens (L.) DC. – **A** – 1740-2010 m
2: *0115* [2].
Dasypyrum villosum (L.) P. Candargy – **C, D** – 790-1085 m
35: *0595* [6]; **39:** *0744* [6].
Deschampsia cespitosa (L.) P. Beauv. – **A, H** – 1515-2000 m
1: *0004* [12]; **19:** *0377* [17]; **82:** *1490* [8].
Deschampsia flexuosa (L.) Trin. – **H** – 520-2000 m
82: *1490a* [1].
Deschampsia flexuosa (L.) Trin. [var. *aristis rectis brevioribus*] – **G** – 520 m
65: *1277* [13].
Elymus athericus (Link) Kerguélen (cf.) – **C** – 1085 m
35: *0601* [2].
Elymus elongatus (Host) Runemark – **D, G** – 160-700 m
43: *0828* [20]; **67:** *1354* [2].
Elymus repens (L.) Gould – **G** – 700 m
67: *1336* [7].
Festuca sp. – **A, E, F** – 1120-1935 m
19: *0394* [6]; **46:** *0932* [1]; **64:** *1203* [12].
Festuca sp. [mixed with ***Anthoxanthum*** + ***Trisetum***] – **A** – 1265 m
31: *0528* [3].
Festuca (sect.***Eskia***) sp. – **A** – 1515-1600 m
19: *0375* [13].
Festuca dalmatica (Hack.) K.Richt. or **Festuca illyrica** Markgr.-Dann. – **D** – 790 m
39: *0771i* [2], *0771j* [8] (det. RK).

Festuca ovina L. (s.l.) – **A, E, F** – 1515-2010 m
2: *0113* [13]; **4:** *0145a* [2]; **9:** *0281* [5]; **22:** *0430* [5], *0443* [11]; **44:** *0899* [12]; **54:** *1078* [5]; **19:** *0392* [2] (det. RK).
Festuca paniculata (L.) Schinz & Thell. – **A, H** – 1515-2000 m
19: *0391* [11]; **82:** *1495* [7] (det. RK).
Festuca rubra L. (s.l.) – **A** – 1515-1600 m
19: *0399* [6] (det. RK).
Festuca valesiaca Schleich. ex Gaudin (s.l.) – **A, E** – 2000-2345 m
44: *0909* [6]; **1:** *0012* [11] (det. RK).
Festuca varia (s.l.) ***bosniaca*** Kumm. & Sendtn. (cf.) – **A, E** – 1685-2345 m
2: *0118* [3]; **9:** *0285* [8]; **44:** *0898* [11], *0902* [13] (det. RK).
Festucopsis serpentini (C. E. Hubb.) Melderis – **A, C** – 1085-2010 m
2: *0068* [6], *0108* [5]; **35:** *0605* [6].
Glyceria fluitans (L.) R. Br. – **A** – 1655 m
28: *0486* [7].
Glyceria maxima (Hartm.) Holmb. – **A** – 1250 m
6: *0170* [44].
Holcus lanatus L. – **A, D** – 790-1265 m
31: *0524* [21]; **39:** *0722* [5].
Hordeum geniculatum All**.** – **A** – 1250 m
6: *0163* [5].
Hyparrhenia hirta (L.) Stapf – **D** – 160 m
43: *0850* [8].
Imperata cylindrica (L.) Raeusch. – D – 160 m
43: *0845* [5].
Koeleria macrantha (Ledeb.) Schult. (cf.) – **C, D** – 790-1085 m
35: *0603* [11]; **39:** *0769* [9].
Koeleria splendens C. Presl (cf.) – **G** – 700 m
67: *1337* [6].
Lolium perenne L. – **C** – 1475 m
36: *0683* [6], *0684* [8].
Melica ciliata L. subsp. ***ciliata*** – **C, D, E, F** – 790-1325 m
35: *0604* [7]; **39:** *0770* [5]; **50:** *0970* [9]; **60:** *1170* [4]; **64:** *1221* [8].
Melica transsilvanica subsp. ***klokovii*** Tzvelev – **D** – 695 m
40: *0784* [4].
Melica uniflora Retz. – **A, C** – 1475-1710 m
22: *0433* [3]; **36:** *0682* [16].
Milium effusum L. – **C** – 1475 m
36: *0677* [6].
Nardus stricta L. – **A** – 1515-2010 m
1: *0008* [15]; **2:** *0116* [1]; **10:** *0293* [12]; **19:** *0383* [9].
Phleum montanum K. Koch – **A, C, E** – 1475-2345 m
9: *0278* [5]; **36:** *0681* [9]; **44:** *0903* [15]; **46:** *0939* [4].
Phleum pratense L. – **C, F** – 1085-1145 m
35: *0606* [6]; **64:** *1237* [4].

Poa sp. – **B** – 405-1630 m
11: *0313* [5]; **35:** *0620* [3]; **40:** *0786* [10]; **52:** *1004* [5].
Poa sp. (mixed material) – **C** – 1085 m
35: *0598* [9] (det. RK).
Poa alpina L. – **A** – 1120-1880 m
9: *0273* [6]; **64:** *1227* [2] (det. RK).
Poa angustifolia L. – **B, C** – 1475-1630 m
11: *0317* [6]; **36:** *0680* [6] (det. RK).
Poa annua L. – **A** – 1515-1600 m
19: *0393* [2] (det. RK).
Poa bulbosa L. – **A** – 1515-1600 m
19: *0402* [5] (det. RK).
Poa compressa L. – **A** – 1515-1600 **19:** *0378* [5] (det. RK).
Poa molinerii Balb. or ***Poa badensis*** Haenke ex Willd. – **A, B, E** – 1515-2345 m
11: *0312* [2]; **19:** *0388* [4]; **44:** *0901* [12], *0910* [10] (det. RK).
Poa nemoralis L. – **A, C, D, H** – 790-2000 m
19: *0401* [8]; **22:** *0442* [8]; **36:** *0678* [6]; **39:** *0771f* [5]; **82:** *1496* [4] (det. RK).
Poa pratensis L. – **A** – 1640 m
3: *0134* [1] (det. RK).
Poa trichophylla Boiss. (aff.) – **C** – 1085 m
35: *0594* [4] (det. RK).
Sesleria coerulans Friv. – **A** – 2000 m
1: *0023* [5].
Sesleria juncifolia Suffren – **F** – 1600 m
54: *1068* [8].
Sesleria robusta Schott & al**.** (cf.) – **A, E, G** – 520-2345 m
2: *0109* [7]; **9:** *0234* [9]; **44:** *0900* [3]; **65:** *129a°* [4].
Sesleria sillingeri Deyl – **E** – 2345 m
44: *0908* [9].
Sorghum halepense (L.) Pers. – **D** – 160 m
43: *0848* [7].
Stipa bromoides (L.) Dörfl. – **D** – 550 m
42: *0806* [16].
Stipa eriocaulis Borbás (cf.) – **A, E, F** – 1600-1880 m
9: *0212* [8], *0284a* [13]; **46:** *0940* [9]; **54:** *1051* [6].
Stipa pulcherrima K. Koch – **E** – 1935 m
46: *0930* [8].
Stipa rechingeri Martinovský – **C** – 1085 m
35: *0607* [2].
Taeniatherum caput-medusae subsp. ***crinitum*** (Schreb.) Melderis – **G** – 520 m
65: *1303* [6].
Trisetum – **D** – 790 m
39: *0771c* [5].
Trisetum flavescens subsp. ***tenue*** (Hack.) Strid (cf.) – **E** – 1935 m
46: *0938* [4].

Triticum neglectum (Bertol.) Greuter – **D, E** – 790-1325 m
39: *0771g* [12]; **50:** *0971* [8].
Triticum triunciale (L.) Raspail – **D, E, F** – 695-1325 m
39: *0771* [6]; **40:** *0782* [7]; **42:** *0805* [9]; **50:** *0961* [10]; **64: 1244** [11].
Vulpia myuros (L.) C. C. Gmel. – **F** – 405 m
52: *0998* [1].

Iridaceae

Gladiolus palustris Gaudin – **F** – 1600 m
54: *1055* [9].
Iris pseudacorus L. – **D** – 160 m
43: *0844* [3].

Juncaceae

Juncus acutiflorus Ehrh. ex Hoffm. – **G** – 520 m
65: *1283d* [2].
Juncus acutus L. – **D** – 160 m
43: *0829* [13].
Juncus alpinoarticulatus Vill. – **B, H** – 1695-2000 m
10: *0297* [3]; **80:** *1477* [1]; **82:** *1492* [5].
Juncus articulatus L. – **F, G** – 405-1065 m
52: *0991* [2]; **62:** *1183* [3]; **65:** *1283b* [2], *1283c* [2].
Juncus compressus Jacq. – **A, B** – 1515-1695 m
10:*0292* [8]; **19:** *0380* [10].
Juncus effusus L. – **A, F, H** – 405-1540 m
6: *0158* [6]; **52:** *0989* [8]; **73:** *1420* [9].
Juncus inflexus L. – **A, C** – 1085-1600 m
19: *0382* [9]; **31:** *0527* [10]; **35:** *0609* [4].
Luzula spicata subsp. ***pindica*** (Hausskn.) Gamisans – **H** – 2000 m
82: *1504* [9].
Luzula taurica (V. I. Krecz.) Novikov – **D, H** – 790-2000 m
39: *0771d* [2]; **82:** *1507* [7].

Liliaceae (s. l.)

Allium albanicum Brullo & al. – **F, G** – 520-1100 m
56: *1153* [6]; **65:** *1293* [24]
Allium flavum L. subsp. ***flavum*** – **F, G** – 520-1100 m
56: *1152* [2]; **65:** *1291* [27].
Allium guttatum Steven – **C** – 1085 m
35: *0633* [3].

Allium roseum f. ***albiflorum*** Maire – **B** – 1695 m
10: *0295* [1].
Allium sphaerocephalon L. – **D, F** – 160-1100 m
43: *0846* [6]; **56:** *1160* [1].
Anthericum liliago L. – **F** – 1600 m
54: *1064* [7].
Asphodelus macrocarpus Parl. – **A** – 1550-1880 m
4: *0145* [6]; **9:** *0282* [6].
Convallaria majalis L. – **F, H** – 405-1390 m
52: *1014a* [7]; **104:** *1614* [1].
Hemerocallis lilioasphodelus L. – **G** – 700 m
67: *1362* [10].
Lilium albanicum Griseb. – **F** – 1810 m
53: *1038* [2].
Lilium chalcedonicum L. – **A** – 1740-2010 m
2: *0107* [7]; **9:** *0283* [2].
Muscari neglectum Ten. – **A** – 1740-2010 m
2: *0112* [2].
Narthecium scardicum Košanin – **A, H** – 1740-2010 m
2: *0110* [9]; **80:** *1467* [10].
Ornithogalum gussonei Ten. (cf.) – **A** – 1740-2010 m
1: *0007* [3]; **2:** *0111* [4].
Ornithogalum pyramidale L. (*Ornithogalum brevistylum* Wolfner) – **F** – 1120-1145 m
64: *1211* [9].
Tulipa sylvestris subsp. ***australis*** (Link) Pamp. – **E** – 2345 m
44: *0894* [1].

Orchidaceae

Cephalanthera rubra (L.) Rich. – **B, F, H** – 1120-1630 m
11: *0335* [7]; **64:** *119F* [0]; **105:** *1616* [1].
Coeloglossum viride (L.) Hartm. – **A** – 1685-1880 m
9: *0274* [4].
Corallorhiza trifida Châtel. – **H** – 1340 m
105: *1615a* [2].
Dactylorhiza sp. – **F** – 1120-1145 m
64: *119G* [0].
Dactylorhiza cordigera (Fr.) Soó – **A, B, F, H** – 1120-1880 m
9: *0284* [2]; **10:** *0294* [8]; **19:** *0381* [1]; **64:** *119B* [0]; **80 :***1473* [13].
Dactylorhiza incarnata (L.) Soó – **A, C, F** – 1085-1810 m
31: *0532* [2]; **35:** *0597* [10]; **53** *1040* [1].
Dactylorhiza viridis (L.) R. M. Bateman & al. – **F** – 1120-1810 m
53: *1039* [1]; **64** *119D* [0].
Epipactis atrorubens (Hoffm.) Besser – **C** – 1085 m

35: *0586* [10].
Epipactis palustris (L.) Crantz – **A** – 1265 m
31: *0530* [0].
Gymnadenia conopsea (L.) R. Br. – **H** – 1450-1550 m
108: *1633* [12].
Gymnadenia frivaldii Hampe ex Griseb. – **F** – 1120-1145 m
64: *119E* [1].
Gymnadenia rhellicani (Teppner & E. Klein) Teppner & E. Klein – **F** – 1810 m
53: *1037* [3].
Neotinea ustulata (L.) R. M. Bateman & al. – **H** – 1340 m
103: *1580* [2].
Neottia nidus-avis (L.) Rich. – **B, H** – 1250-1340 m
15: : *0364* [0]; **105:** *1615b* [3].
Orchis militaris L. – **F** – 1120-1145 m
64: *119C* [0].
Pseudorchis albida (L.) Á. Löve & D. Löve – **H** – 1965-2000 m
80: *1474* [4]; **82:** *1493* [8].

Potamogetonaceae

Potamogeton natans L. – **A** – 1655 m
28: *0484* [14].
Stuckenia pectinata (L.) Börner – **D** – 790 m
39: *0757* [2].

Typhaceae

Typha domingenis Pers. – **D** – 160 m
43: *0834* [10].

Figures for the collected material

In total, 1750 gatherings have been made, numbered *0001* to *1691,* with several numbers comprising two or more gatherings and denoted additionally by a lower-case letter (*a,* etc.; up to *p* in one case). Four gatherings could not be retrieved during the sorting of the material and are considered lost, but two of them are nevertheless included in the above enumeration, having been reliably identified in the field: *Filago pyramidalis* and *Atropa belladonna;* the two others, *0255* and *0822,* identified in the field as *Hieracium* sp. and *Labiatae* sp., respectively, were omitted from the account. Including duplicates, the whole material consists of c. 12'350 specimens. The main duplicate sets have been deposited, first in the Natural History Museum in Tirana, then in the herbaria of the specialists who had volunteered to identify the material, and lastly in the institutions represented by the foreign participants (PAL-Gr, W, GE, RO, CAT; one set was sent to MEL). Several more duplicate sets of varying size remain

available for interested parties on an exchange or sale basis. If you are interested, just write. The Albanian material, in all, represents 82 families: 3 of vascular cryptogams, 2 of gymnosperms, 67 of dicots and 10 of monocots. The most diverse families are *Compositae* (53 genera, 128 taxa), *Gramineae* (40 g., 87 t.), *Leguminosae* (22 g., 69 t.), *Rosaceae* (19 g., 56 t.), *Caryophyllaceae* (15 g., 52 t.), *Labiatae* (15 g., 48 t.), *Scrophulariaceae* (11 g., 40 t.), *Cruciferae* (16 g., 33 t.), *Cyperaceae* (6 g., 29 t.), *Umbelliferae* (17 g., 27 t.), *Ranunculaceae* (9 g., 25 t.), and *Boraginaceae* (13 g., 19 t.). These twelve largest families, taken together, account for 59 % of the 383 genera collected, and for 64 % of the 957 taxa. Among the genera harvested, the following are represented by 10 or more taxa: *Carex* (24), *Trifolium* (20), *Silene* (14), *Hieracium, Ranunculus* and *Rosa* (12), *Achillea* and *Poa* (11), and *Campanula, Geranium, Linum, Pilosella, Satureja,* and *Sedum* (10).

4. *Hypericum ermelindarum,* a new St. John's wort species from Albania

by Werner Greuter

The genus *Hypericum* is well represented and species-rich in the Balkan countries. During the Iter Mediterraneum XIII, five species were collected, including the present one that does not match material of any of the others, nor of any further species with which I compared it, and which is therefore here described as a species new to science. In its *locus classicus* in the north-eastern part of Jabllanica Mountains it grew plentiful and showed little if any variation in its morphology, so that (even though a clonal nature of the local population cannot be excluded) I consider it as a genetically stable, true-breeding taxon. I take pleasure in dedicating it to the two Albanian ladies of our team names Ermelinda, E. Gjeta and E. Mahmutaj, who by their ever pleasant presence and cheerful mood contributed substantially to the harmony and cohesion of our group. Ermelinda being a rare and unusual name, at least outside of Albania, the coincidence of having two homonyms within a small group of persons is indeed remarkable.

Hypericum ermelindarum Greuter, **sp. nov.**
Holotypus: Iter Mediterraneum XIII, No. 75: Albania, Qark Elbasan, area E of Librazhd, Shebenik-Jabllanicë National Park, track from Gizavesht to Liqenet e Dragostunjës, 41°13'02"N, 20°24'30"E, 1250 m s.m., 22 Jun 2017, *Gjeta & al.* (PAL-Gr #124893; isotypi: B, CAT, GE, RO, MEL, Muz. Tiranë, W, etc.).

Planta perennis herbacea, caudice lignoso tenui saepe in ramos graciles diviso; *surculi* basales steriles pauci, 5-10 cm longi, ascendentes vel subdecumbentes, in parte distali subdense foliati, foliis ellipticis basi rotundata vel subcordata subsessili, apice obtuso, 8–10(–12) × 2–3(–4) mm metientibus; *caules floriferi* pauci, 25–30(–35) cm alti, e basi arcuata s. ascendente erecti, *foliis* inferioribus forma et magnitudine eis surculorum similibis, sursum gradatim auctis et proportione latioribus, late ovatis, basi sessili amplexicauli et apice obtuso, 12-16 × 8-10 mm metientibus; *puncti glandulares* translucidi ubicunque desunt, *nigri* in lamina foliari nulli, sed in sepalis, petalis antherisque nec non in apice fimbriarum obviis; *foliorum margo* undique angustissime (< 0,2 mm), translucide membranaceo-alatus, ala irregulariter eroso-denticulata et punctis glandularibus atris paucis irregulariter

obsita, sed in foliis caulinis superioribus conspicue crebre glanduloso-denticulatus et in summis, inflorescentiam fulcrantibus longiuscule (ca. 2 mm) glanduloso-fimbriatus; *bracteae* fere omnino in fimbrias decompositae; *sepala* 5, anguste ovata, 6-8 × 2-3 mm metientia, dorso dense irregulariter atropunctata et secus medium atro-striata, margine conspicue fimbriata, fimbriis £ 2 mm longis nigro-capitatis; *petala* 5 lutea, ± anguste spatulata, limbo atro-punctulato et margine apicem versus minute atro-fimbriato; *antherarum* connectivum nigro-apiculatum; *capsulae* ignotae, ex vestigiis vesiculis destitutis anni praeteriti latiuscule ovoideae.

Potissime *Hyperico barbato* Jacq. comparandum, differt autem fimbriis sepalorum et bractearum subbrevioribus, in glandulam capitatam nigram nec in apicem albescentem filiformem desinentibus, imprimis autem ala membranacea translucida foliorum caulinorum. Aliae species *Hyperici* cum nostra comparandae sunt *H. bithynicum, H. montbretii, H. rumelicum* et *H. apollinis* Boiss. & Heldr.*,* quae cunctae margine membranaceo foliorum carent et glandulae nigrae laminares, praesertim intramarginales, saepe insuper translucidae, in foliis praebent. Species hae, summopere polymorphae, probabiliter porro species (vel subspecies) nondum recognitae amplectent.

5. The bryophyte materials collected during the "Iter Mediterraneum" (Albania)

by Patrizia Campisi, Mattia Letizia Marino, Gianniantonio Domina & Francesco M. Raimondo

Introduction

Within the Mediterranean region, Albania is one of the countries where floristic research on bryophytes has recently intensified. Until more than twenty years ago, this country was one of the least known from a bryofloristic perspective, partly due to the lack of botanists specifically dedicated to this group of plants, as highlighted by Düll (1996) and Geissler (2001).

Over the last twenty years, thanks to the work of both individual researchers, inclu- ding those of other nationalities, and some scientific societies, which have organized field work, bryological knowledge in Albania has significantly intensified (e.g. Colacino 2023a; Colacino & Marka 2009; Colacino & Sabovljević 2006; Marka & al. 2018), leading to the identification of a significant number of taxa unknown in the country and, more recently, to the creation of a first updated checklist of the entire bryoflora (Colacino 2023b).

In the light of these recent investigations, as reported from Colacino (2023), Albania currently has a total of 583 bryophyte taxa, including 125 liverworts and hornworts and 458 mosses. This number is likely to increase as research progresses, given that several areas of the territory still require investigations.

In this context, with the aim of contributing to the improvement of bryofloristic knowledge of Albania, during the thirteenth Iter Mediterraneum of OPTIMA, in addition to the collection of vascular plant samples, which the Iter is primarily aimed at, a group of 92 bryophyte specimens were collected by F. M. Raimondo and G. Domina.

Below is the list of taxa, arranged alphabetically by family. For each taxon, the collection sites and localities (both indicated in bold), along with altitude and notes on their distribution in Albania, are provided. In addition, the specimen number (in italics) is reported.

Collecting localities

The collecting localities for bryophytes were given the same numbers as for vascular plants. The general areas are those that have been defined for the latter, are denoted by the same letters as for these (see p. 7), and are repeated below. In the general areas **C**, **D**, and **E**, no bryophytes have been collected.

A: Shebenik-Jabllanicë National Park, Jabllanicë Mountain, 1075-2010 m a.s.l.; 22 and 24 June. Localities 1-9, 18-28: Elbasan prefecture. Localities 17, 29-33: Dibra prefecture.
B: Polis Mountains, 560-1695 m a.s.l.; 23 June. Localities 10-16: Elbasan prefecture.
F: Pashtriku Mountain, N slopes of main range, 450 and 795-1810 m a.s.l.; 28-29 June.Localities 52-64: Kukës prefecture.
G: Road to Valbonë, Dragobi, gorge of Perroi Milloshit and surroundings (Rocks and brookside), 370-700 m a.s.l.; 30 June. Locality 69: Kukës prefecture.
H: Valbonë, road via Çerem to Qafa Kunji i Armëve, 1180-2000 m a.s.l.; 1 July. Localities 70-102: Kukës prefecture.

Specimen enumeration

Within each of the two principal groups (*Hepaticae* and *Musci*) the arrangement is alphabetical by families, then genera, then species. The delimitation of families and species nomenclature follows Hodgetts & al. (2020) and Jiménez & al. (2022). The material is deposited in the *Herbarium Mediterraneum Panormitanum* (PAL).

In the enumeration, the name of the taxon is followed, on the same line, by the general area or territorial unit (lettered **A**, **B** or **F** to **H**, as defined above) and the altitude (m above the sea level), based on the label data. On a separate line, the individual specimens are enumerated in the format N: *XX*, where N stands for the locality number (1 to 112, as in Table 1), and *XX* for the gathering number (*1* to *71*).

Liverworts

Anastrophyllaceae

Barbilophozia barbata (Schmidel ex Schreb.) Loeske – **H** – 1500 m
72:61 This is the first report for the prefecture of Kukës.

Conocephalaceae

Conocephalum conicum (L.) Dumort. – **H** – 1500 m
71: *62*. This is the first report for the prefecture of Kukës.

Jungermanniaceae

Jungermannia atrovirens Dumort. – **H** – 1500 m
73: *24*. This is the first report for the prefecture of Kukës.
Mesoptychia turbinata (Raddi) L. Söderstr. & Váňa – **A**, **H** – 1500 - 1550 m
4: *63*; **89**: *64*. This is the first report for the prefectures of Elbasan and Kukës.

Marchantiaceae

Marchantia polymorpha L. – **A** – 1640 m
3: *32*. This is the first report for the prefecture of Elbasan.

Pelliaceae

Apopellia endiviifolia (Dicks.) Nebel & D. Quandt – **H** – 1500 m
89: *26*. This is the first report for the prefecture of Kukës.

Plagiochilaceae

Pedinophyllum interruptum (Nees) Kaal. – **H** – 1500 m
89: *65*. This is the first report for the prefecture of Kukës.
Plagiochila asplenioides (L.) Dumort. – **H –** 1500 m
90: *66*. In this prefecture the taxon had not been reported since 1950.
Plagiochila porelloides (Torr. ex Nees) Lindenb. – **H** – 1500 m
89: *67*. This is the first report for the prefecture of Kukës.

Radulaceae

Radula (L.) Dumort. sp. – **H –** 1500 m
89: *71*.

Scapaniaceae
Scapania calcicola (Arnell & J. Perss.) Ingham – **H** – 1500 m
89: *68*. This is the first report for the prefecture of Kukës. The taxon was previously known only from one prefecture.
Scapania undulata (L.) Dumort. – **H –** 1500 m
100: *69* .

Solenostomataceae

Solenostoma hyalinum (Lyell) Mitt. – **H** – 1500 m
100: *70*. This is the first report for the prefecture of Kukës. The taxon was previously known only from one prefecture.

Musci

Amblystegiaceae

Campyliadelphus chrysophyllus (Brid.) R.S. Chopra – **H** – 1500 m
90: *36*. This is the first report for the prefecture of Kukës.
Cratoneuron filicinum (Hedw.) Spruce – **A, H** – 1250 – 1500 m
6:*37*; **89**: *38*. This is the first report for the prefecture of Kukës.
Hygroamblystegium tenax (Hedw.) Jenn. – **A** – 1250 m
6: *31*. This is the first report for the prefecture of Elbasan.
Palustriella falcata (Brid.) Hedenäs – **H** – 1500 m
89: *25*. This is the first report for the prefecture of Kukës.

Aongstroemiaceae

Diobelonella palustris (Dicks.) Ochyra – **H** 1500 m
90: *22*.

Bartramiaceae

Bartramia ithyphylla Brid. – **H** – 1500 m
73: *33*. This is the first report for the prefecture of Kukës.
Philonotis calcarea (Bruch & Schimp.) Schimp. – **A, H** – 1250-1500 m
6: *11*; **72**: *27*. This is the first report for the prefectures of Elbasan and Kukës.
Philonotis fontana (Hedw.) Brid. – **H** – 1500 m
73: *28*. This is the first report for the prefecture of Kukës.
Philonotis tomentella Molendo – **H –** 1500 m
73: *29*.

Brachytheciaceae

Brachythecium rivulare Schimp. – **H** – 1500 m
73: *34*. This is the first report for the prefecture of Kukës.
Brachythecium rutabulum (Hedw.) Schimp. var. ***rutabulum*** – **A** – 1250 m
7: *35*.
Eurhynchium striatum (Hedw.) Schimp. – **A** – 1640 m
3: *39*. This is the first report for the prefecture of Elbasan.
Homalothecium lutescens (Hedw.) H.Rob. var. *lutescens* – **F, H** – 565-1065 m
62: *14*; **69**: *16*. This is the first report for the prefecture of Kukës.
Homalothecium sericeum (Hedw.) Schimp. – **B –** 1695 m
10: *3*.
Oxyrrhynchium speciosum (Brid.) Warnst. – **H** – 1500 m
89: *48*. This is the first report for the prefecture of Kukës.

Rhynchostegium riparioides (Hedw.) Cardot – **H** – 1500 m
90: *52*. In this prefecture the taxon had not been reported since 1950.

Bryaceae

Ptychostomum imbricatulum (Müll.Hal.) Holyoak & N. Pedersen – **B, H** – 1250-1500 m
15: *1*; **89**: *19*. These are the first report for the prefectures of Elbasan and Kukës.
Ptychostomum pallescens (Schleich. ex Schwägr.) J.R. Spence – **F –** 405 m
52: *13*.
Ptychostomum pseudotriquetrum (Hedw.) J.R. Spence & H.P. Ramsay var. ***pseudotriquetrum*** – **A, H** – 1250-1500 m
6: *9*; **71**: *20*. This is the first report for the prefecture of Kukës.

Calliergonaceae

Sarmentypnum exannulatum (Schimp.) Hedenäs – **H –** 1500 m
73: *55*.

Climaciaceae

Climacium dendroides (Hedw.) F. Weber & D. Mohr – **A** – 1250 m
6: *10*. This is the first report for the prefecture of Elbasan. The taxon was previously known only from one prefecture.

Fontinalaceae

Fontinalis antipyretica (Hedw.) subsp. ***antipyretica*** – **A, H** – 565-1250 m
6: *30*; **69**: *40*. These are the first report for the prefectures of Elbasan and Kukës. The taxon was previously known only from one prefecture.

Grimmiaceae

Grimmia alpestris (F. Weber & D. Mohr) Schleich. – **H** – 565 m
69: *15*. This is the first report for the prefecture of Kukës.
Grimmia hartmanii Schimp. – **H** – 1500 m
69: *41;* **73**: *42*. These are the first report for the prefecture of Kukës.
Schistidium apocarpum (Hedw.) Bruch & Schimp. – **H** – 565 m
69: *56*. In this prefecture the taxon had not been reported since 1950.

Heterocladiellaceae

Heterocladiella dimorpha (Brid.) Ignatov & Fedosov – **B, H** – 565-1500 m
15: *43*; **73**: *44*. These are the first report for the prefectures of Elbasan and Kukës. The taxon was previously known only from one prefecture.

Hylocomiaceae

Hylocomiadelphus triquetrus (Hedw.) Ochyra & Stebel – **H** – 1500 m
100: *45*. In this prefecture the taxon had not been reported since 1950.

Hymenolomataceae

Hymenoloma crispulum (Hedw.) Ochyra – **H** – 565-1500 m
69:*46*; **71**: *47*. In these prefectures the taxon had not been reported since 1950.

Leucodontaceae

Leucodon sciuroides (Hedw.) Schwägr. – **B –** 1250 m
15: *4*.

Mniaceae

Plagiomnium elatum (Bruch & Schimp.) T.J. Kop. – **A** – 1275 m
5: *12*. This is the first report for the prefecture of Elbasan. The taxon was previously known only from one prefecture.
Pohlia cruda (Hedw.) Lindb. – **B, H** – 1250-1500 m
15: 5; These are the first report for the prefectures of Elbasan and Kukës.
Pohlia nutans (Hedw.) Lindb. subsp. *nutans* – **H** – 1500 m
73: *49*. This is the first report for the prefecture of Kukës. The taxon was previously known only from one prefecture.
Rhizomnium punctatum (Hedw.) T.J. Kop. var. *punctatum* – **H** – 1500 m
73: *51*. This is the first report for the pre- fecture of Kukës.

Myuriaceae

Ctenidium molluscum (Hedw.) Mitt. – **B –** 1250 m
15: *21*.

Polytrichaceae

Polytrichastrum alpinum (Hedw.) G.L. Sm. – **H** – 1500 m
89: *50*. This is the first report for the prefecture of Kukës.

Polytrichum juniperinum Hedw. – **B, H** – 565-1500 m
15: *6*; **69** *17*: This is the first report for the prefecture of Kukës.

Pottiaceae

Husnotiella sinuosa (Mitt.) J.A. Jiménez & M.J.Cano – **H** – 1500 m
71: *23*. This is the first report for the prefecture of Kukës.
Tortella tortuosa (Hedw.) Limpr. – **B, H** – 560-1500 m
16: *8*; **71**: *59*. This is the first report for the prefecture of Kukës.
Vinealobryum insulanum (De Not.) R.H. Zander – **B** – 560 m
16: *60*. This is the first report for the prefecture of Elbasan.

Pterigynandraceae

Pterigynandrum filiforme Hedw. – **B** – 1630 m
11: *7*.

Pylaisiaceae

Calliergonella cuspidata (Hedw.) Loeske – **B –** 1695 m
10: *2*.

Scorpidiaceae

Sanionia uncinata (Hedw.) Loeske – **H** – 565-1500 m
69: *53*; **100**: *54*. This is the first report for the prefecture of Kukës. The taxon was previously known only from one prefecture.

Seligeriaceae

Blindia acuta (Hedw.) Bruch & Schimp. – **H –** 1500 m
90: *18*.

Sphagnaceae

Sphagnum auriculatum Schimp. – **H –** 1500 m
73: *57*.
Sphagnum subsecundum Nees – **H –** 1500 m
90: *58*.

Figures for the collected material

Overall, the 13th OPTIMA Mediterranean Iter led to the compilation of a list of 58 bryophyte taxa: 13 liverworts and 45 mosses. Nine families of liverworts and 22 mos-ses are represented, mostly by one or two taxa. Only the families *Amblystegiaceae*, *Bartramiaceae*, *Brachytheciaceae*, and *Mniaceae* are represent by four or more taxa.

Among these , 38 were previously unknown in the prefecture(s) where they were found. Of these, seven (*Scapania calcicola*, *Climacium dendroides*, *Fontinalis antipyretica* subsp. *antipyretica*, *Heterocladiella dimorpha*, *Plagiomnium elatum*, *Pohlia nutans* subsp. *nutans*, and *Sanionia uncinata)* were previously known from only one Albanian prefecture.

The Iter thus enabled the collection of useful data on the distribution of numerous bryophytes in Albania. This confirms the need for and importance of floristic surveys, as they are essential tools for the understanding and monitoring of biodiversity, along with the efforts aimed at compiling checklists and redlists at various geographical scales.

References

Anonymous [Euro+Med] 2006+ [continuously updated]: Euro+Med PlantBase – the information resource for Euro-Mediterranean plant diversity. Published at http://www.europlusmed.org [accessed 10/1/2026]

Barina, Z., Mullaj, A., Pifkó, D., Somogyi, G., Meco, M. & Rakaj, M. 2017: Distribution Atlas of Vascular Plants in Albania. – Budapest.

Colacino, C. 2023a: Contribution to the bryophyte flora of Albania. – Phytol. Balcan. **29(2):** 163-170.

— 2023b: Bryophyte flora of Albania: an updated checklist with new records. – Phytol. Balcan. **29**(**3**)**:** 337-370.

— & Marka, J. 2009: Bryophytes of the Karavasta Lagoon area, with new reports for Albania. – Phytol. Balcan. **15:** 39-42.

— & Sabovljević, M. 2006: Bryophyte flora of Albania: a preliminary checklist. – Crypt. Bryol. **27:** 471-498.

Domina, G., El Mokni, R., Greuter, W. & Raimondo F. M. 2015a: Results of the 12th "Iter Mediterraneum" in Tunisia, 24 March – 4 April, 2014. – Bocconea **27(1):** 1-76. https://doi.org/10.7320/Bocc27.1.001

—, Greuter, W., Elyes Kchouk, M., El Mokni, R., Smaoui, A., Vitek, E., Bazan, G., Escobar, P. & Raimondo, F. M. 2015b: The 12th "Iter Mediterraneum" in Tunisia, 24 March – 4 April 2014. – Bocconea **27(1):** 5-11. https://doi.org/10.7320/Bocc27.1.005

Düll, R. 1996: The current state of bryophyte investigation in the Mediterranean area. – Bocconea **5:** 271-278.

Geissler, P. 2001: The phytogeography of Mediterranean bryophytes: progress and problems. – Bocconea **13:** 81-88.

Greuter, W. 2008: Med-Checklist. A critical inventory of vascular plants of the circum-mediterranean countries, **2.** – Palermo, Genève & Berlin.

— 2012: Results of the Seventh "Iter Mediterraneum" in the Peloponnese, Greece, May to June 1995. – Bocconea **25:** 5-127. https://doi.org/10.7320/Bocc25.005

—, Burdet, H. M. & Long, G. 1984, 1986, 1989: Med-Checklist. A critical inventory of vascular plants of the circum-mediterranean countries, **1, 3, 4.** – Genève & Berlin.

Greuter, W., Brummitt, R. K., Farr, E., Kilian, N., Kirk, P. M. & Silva, P. C. 1993: NCU-3. Names in current use for extant plant genera. – Regnum Veg. **129.**

Hodgetts, N. G., Söderström, L., Blockeel, T. L., Caspari, S., Ignatov & al. 2020: An annotated checklist of bryophytes of Europe, Macaronesia and Cyprus. – J. Bryol. **42(1):** 1-116. https://doi.org/10.1080/03736687.2019.1694329

Jiménez, J. A., Cano, M. J. & Guerra, J. 2022: A multilocus phylogeny of the moss genus *Didymodon* and allied genera (*Pottiaceae*): generic delimitations and their implications for systematics. – J. Syst. Evol. **60(2):** 281-304. https://doi.org/10.1111/jse.12735.

Marka, J., Blockeel,T. M., Long D. J. & Papp, B. 2018: Bryophytes new to Albania from the British Bryological Society field meeting in 2014 – J. Bryol. **40(2):** 163-172. https://doi.org/10.1080/03736687.2018.1428072

Meco, M. & Mullaj, A. 2015: Phenological aspects of Albanian Flora. – Poster at International Conference on Soil. 4-6 May 2015 Tirana, Albania.

Miho, A., Witmer, M., & Bego, F. 2013: Riverine ecosystems in Albania. – Hydrobiologia **719:** 55-67.

Paparisto, K., Demiri, M., Mitrushi, I. & Qosja, Xh. 1988: Konsiderata të përgjithshme. – Pp 9-32 in: Parapisto, K., Demiri, M., Mitrushi, I. & Qosja, X., Flora e Shqipërisë, **1.** –Tiranë.

Pils, G. 2016: Illustrated Flora of Albania. – St. Stefan.

Qiriazi, P. 2001: Gjeografia fizike e Shqipërisë. – Tiranë.

Valdés, B. 1988a: The "Itinera Mediterranea" (from the minutes of the I Itinera Mediterranea Seminar, Sevilla, May 14, 1987). – OPTIMA Newslett. **20-24:** 44-46.

— 1988b: Los Itinera Mediterranea. – Lagascalia **15(extra):** 131-137.

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