

Supplementary material

Supplementary Material Appendix 1.

Mean percentage occurrence (n = 10) of species characteristic of the dry alvar (A) and woodlands (W), and other species (O) in the vegetation (measured in subplots within 2 × 2 m) and the numbers of seeds in the soil seed bank in the layer 0–5 cm / 5–10 cm (125 cm²). These values were measured in the open alvar adjacent to dense scrub, in open places within the dense scrub, and under the dense scrub, which had formed after 80 years of abandonment. No information is available on either the number of individuals or the cover of the species recorded. Species with only one occurrence in the seed bank were omitted because of possible contamination of the samples. The column ‘persistence of the soil seed bank’ gives the ability of species to accumulate a persistent seed bank according to trait databases (adapted to binary classification following Ozinga et al. 2004, 2009; i.e. 0 = < 1 year; 1 = > 1 year). ? *Carex* spp. for combined records of *Carex caryophyllea* and *C. ericetorum*, which could not be distinguished vegetatively in the field.

species	open places		dense scrub vegetation seed bank	open alvar in dense scrub	
	persistent soil vegetation seed bank			seed bank vegetation	seed bank
<i>A Agrostis capillaris</i>	18	-/-	1	2 25	9/3 2/-
<i>A Agrostis vinealis</i>	1	4/1	1	22 5	9/3 -/-
<i>A Antennaria dioica</i>	-	-/-	0	53 -	-/- -/-
<i>A Anthyllis vulneraria</i>	6	-/-	1	48 -	3/2 -/-
<i>A Arabis hirsuta</i>	2	-/-	1	5 -	3/- -/-
<i>A Arenaria serpyllifolia</i>	1 36/26	1	1 -	9/3 7/11	 1

<i>A Artemisia oelandica</i>	0	17	-/-	-
-/-		-	-/-	
<i>A Asperula tinctoria</i>		0	99	3/-
72	-/-		39	-/-
<i>A Avenula pratensis</i>		0	94	-/-
100	-/-		13	-/-
<i>A Avenula pubescens</i>		0	69	-/-
73	-/-		8	-/-
<i>A Briza media</i>		1	48	-/-
27	-/-		1	-/-
<i>A Bromus hordeaceus</i>		0	-	-/-
2	-/-		-	-/-
<i>A Calluna vulgaris</i>		1	43	451/459
-	-/-		-	-/-
<i>A Campanula persicifolia</i>	1	55	1/3	74
11/3		16	41/26	
<i>A Campanula rotundifolia</i>	1	37	20/15	3
-/-		48	20/10	
<i>A Carex caryophylla</i>		1	74	18/3
9?	3/2		24?	5/5
<i>A Carex ericetorum</i>		1	59	45/15
9?	3/1		24?	5/-
<i>A Carlina vulgaris</i>		0	2	-/-
-	-/-		-	-/-
<i>A Centaurea jacea</i>		0	35	-/-
-	-/-		-	-/-
<i>A Centaurea scabiosa</i>		0	-	-/-
1	-/-		-	-/-
<i>A Cerastium fontanum</i>	1	19	42/9	7
8/2		1	9/8	
<i>A Cerastium glutinosum</i>	0	1	-/-	-
-/-		-	-/-	
<i>A Cerastium semidecandrum</i>		0	1	-/-
-	-/-		-	-/-
<i>A Cirsium acaule</i>		0	26	-/-
1	-/-		-	-/-
<i>A Dactylorhiza sambucina</i>	0	-	-/-	1
-/-		-	-/-	
<i>A Danthonia decumbens</i>	0	55	6/-	-
-/-		2	-/-	
<i>A Draba incana</i>		0	-	-/-
-	-/-		1	-/-
<i>A Festuca ovina</i>		0	99	7/1
99	-/-		41	-/-
<i>A Filipendula vulgaris</i>	0	99	-/-	97
-/-		63	-/-	
<i>A Fragaria viridis</i>		0	17	-/-
84	1/-		70	-/-
<i>A Galium boreale</i>		0	67	-/-
10	-/-		41	-/-

A <i>Galium verum</i>		0	89	2/-	
96	2/-		10	-/-	
A <i>Globularia vulgaris</i>		0	1	-/-	
-	-/-		-	-/-	
A <i>Helianthemum nummularium</i>		1	100	27/1	
96	9/-		-	-/-	
A <i>Helianthemum oelandicum</i>		0	17	-/-	
-	-/-		-	-/-	
A <i>Hieracium pilosella</i>		0	23	-/-	
17	-/-		4	-/-	
A <i>Hypericum perforatum</i>	1	-	-/-		24
22/7		3	12/8		
A <i>Knautia arvensis</i>		0	3	-/-	
-	-/-		1	-/-	
A <i>Linum catharticum</i>		1	21	159/37	
1	5/3		-	2/-	
A <i>Lotus corniculatus</i>		1	9	-/-	
4	-/-		-	-/-	
A <i>Luzula campestris</i>		1	79	6/2	
34	3/1		4	5/6	
A <i>Medicago lupulina</i>		1	-	-/-	
13	2/-		-	-/-	
A <i>Orchis mascula</i>		0	5	-/-	
13	-/-		15	-/-	
A <i>Orchis ustulata</i>		0	13	-/-	
-	-/-		-	-/-	
A <i>Oxytropis campestris</i>	1	62	17/2		21
1/2		-	-/-		
A <i>Phleum phleoides</i>		0	59	-/-	
51	-/2		29	-/-	
A <i>Poa angustifolia</i>		1	-	-/-	
98	12/8		13	20/2	
A <i>Poa compressa</i>		1	-	2/1	
1	-/-		11	11/2	
A <i>Polygala comosa</i>		0	-	-/-	
4	-/-		-	-/-	
A <i>Polygala vulgaris</i>		1	15	1/1	
5	-/-		-	1/1	
A <i>Potentilla tabernaemontani</i>		1	91	76/17	
38	24/14		-	3/5	
A <i>Primula veris</i>		0	-	-/-	
-	-/-		8	-/-	
A <i>Prunella grandiflora</i>	0	73	-/-		20
-/-		2	-/-		
A <i>Prunella vulgaris</i>		0	-	-/-	
-	-/-		1	-/-	
A <i>Pulsatilla pratensis</i>		0	19	-/-	
33	-/-		-	-/-	
A <i>Ranunculus bulbosus</i>	1	1	-/-		12
-/-		-	-/-		

A <i>Scabiosa columbaria</i>	0	16	-/-		1
-/-		-	-/-		
A <i>Sedum acre</i>		1	-	-/-	
1	1/2		-	-/-	
A <i>Sedum album</i>		0	1	-/-	
-	-/-		-	-/-	
A <i>Sedum reflexum</i>		1	9	7/2	
7	-/-		-	-/-	
A <i>Silene nutans</i>		0	1	-/-	
-	-/-		-	-/-	
A <i>Stellaria graminea</i>		0	-	-/-	
44	4/-		1	6/1	
A <i>Taraxacum</i> sp.		1	12	2/1	
1	-/-		1	-/-	
A <i>Thymus serpyllum</i>		0	65	-/-	
2	-/-		-	-/-	
A <i>Trifolium campestre</i>	1	1	7/2		1
-/-		-	-/-		
A <i>Trifolium montanum</i>	1	-	-/-		1
-/-		2	-/-		
A <i>Trifolium pratense</i>		1	-	-/-	
-	-/-		1	-/-	
A <i>Trifolium repens</i>		1	1	12/22	
7	-/-		-	2/2	
A <i>Trifolium striatum</i>		1	-	2/-	
1	-/-		-	-/-	
A <i>Veronica arvensis</i>		1	-	-/-	
-	4/-		-	-/-	
A <i>Veronica chamaedrys</i>	1	-	-/-		1
-/-		-	-/-		
A <i>Veronica spicata</i>		1	53	15/6	
14	4/3		1	-/-	
A <i>Viola canina</i>		1	35	-/-	
-	-/-		-	-/-	
A <i>Viola rupestris</i>		1	-	6/-	
-	-/-		-	1/1	
W <i>Agrimonia eupatoria</i>	0	-	-/-		1
-/-		-	-/-		
W <i>Berberis vulgaris</i>		0	-	-/-	
-	-/-		29	-/-	
W <i>Brachypodium sylvaticum</i>		0	-	-/-	
-	-/-		5	-/-	
W <i>Cotoneaster integerrimus</i>		0	-	-/-	
-	-/-		21	-/-	
W <i>Crataegus monongyna</i>	0	-	-/-		-
-/-		3	-/-		
W <i>Evonymus europaeus</i>	0	-	-/-		-
-/-		4	-/-		

W <i>Fragaria vesca</i>		0	-	-/-	
4	-/-		18	6/-	
W <i>Fraxinus excelsior</i>		0	-	-/-	
-	-/-		1	-/-	
W <i>Galium aparine</i>		0	-	-/-	
-	-/-		17	-/-	
W <i>Geum urbanum</i>		0	-	-/-	
-	-/-		77	-/-	
W <i>Juniperus communis</i>	0	13	-/-		1
-/-		100	-/-		
W <i>Lonicera xylosteum</i>	0	-	-/-		-
-/-		2	-/-		
W <i>Polygonatum multiflorum</i>		0	-	-/-	
-	-/-		1	-/-	
W <i>Prunus spinosa</i>		0	30	-/-	
42	-/-		64	-/-	
W <i>Ribes uva-crispi</i>		0	-	-/-	
-	-/-		1	-/-	
W <i>Rosa canina</i>		0	-	-/-	
4	-/-		31	-/-	
W <i>Sorbus intermedia</i>		0	-	-/-	
-	-/-		8	-/-	
W <i>Torilis japonica</i>		1	-	-/-	
-	-/-		2	-/-	
W <i>Valeriana officinalis</i>	0	-	-/-		-
-/-		5	-/-		
W <i>Veronica officinalis</i>	1	-	-/-		-
-/-		2	2/4		
W <i>Viburnum opulus</i>		0	-	-/-	
-	-/-		9	-/-	
W <i>Viola hirta</i>		0	11	-/-	
16	-/-		77	-/-	
O <i>Achillea millefolium</i>	1	46	-/-		54
-/-		-	5/4		
O <i>Anthoxanthum odoratum</i>		1	13	3/-	
12	2/-		1	-/-	
O <i>Arrhenatherum elatius</i>	0	-	-/-		-
-/-		10	-/-		
O <i>Carex flacca</i>		1	10	5/2	
3	-/-		10	4/-	
O <i>Dactylis glomerata</i>		0	-	-/-	
-	-/-		8	-/-	
O <i>Erigeron canadense</i>	1	-	-/-		-
-/-		-	4/2		
O <i>Juncus articulatus</i>		1	-	18/19	
-	3/2		-	4/3	
O <i>Juncus bufonius</i>		1	-	13/16	
-	1/1		-	-/-	

O <i>Lycopus europaeus</i>		0	-	-/-	
-	2/-		-	-/-	
O <i>Medicago falcata</i>		0	-	-/-	
23	-/-		-	-/-	
O <i>Phleum pratense</i>		1	-	-/-	
2	-/-		-	-/-	
O <i>Plantago lanceolata</i>	1	76	3/-		51
18/-		-	-/-		
O <i>Platanthera chlorantha</i>	0	1	-/-		-
-/-		2	-/-		
O <i>Potentilla fruticosa</i>		?	-	-/-	
1	-/-		-	-/-	
O <i>Potentilla reptans</i>		1	-	-/-	
-	-/-		1	19/22	
O <i>Rumex acetosa</i>		1	-	-/-	
-	-/-		3	-/-	
O <i>Sagina nodosa</i>		1	-	2/1	
-	-/-		-	-/-	
O <i>Sesleria coerulea</i>		0	59	-/-	
1	-/-		1	-/-	
O <i>Sonchus asper</i>		1	-	-/-	
-	1/2		-	-/-	
O <i>Vicia cracca</i>		0	-	-/-	
1	-/-		7	-/-	