

Pellissier, L., Bråthen, K. A., Pottier, J., Randin, C. F., Vittoz, P., Dubuis, A., Yoccoz, N. G., Alm, T., Zimmermann, N. E. and Guisan, A. 2010. Species distribution models reveal apparent competitive and facilitative effects of a dominant species on the distribution of tundra plants. – *Ecography* 33: 1004–1014.

## Supplementary material

### Appendix 1

Table S1. Predictive power of the models using topoclimatic predictor (TC) only or also with the frequency of *E. hermaphroditum* (BIO) evaluated with the Area Under the Curve (AUC) and fit estimated with the adjusted geometric mean-squared improvement ( $R^2$  rescaled for a maximum of 1 and adjusted for both the number of observations and of predictors in the model).

Species name	$R^2$ TC	$R^2$ BIO	AUC TC	AUC BIO
<i>Agrostis mertensis</i>	0.076	0.111	0.597	0.623
<i>Alchemilla alpina</i>	0.163	0.152	0.608	0.622
<i>Antennaria dioica</i>	0.147	0.184	0.618	0.613
<i>Arabis alpina</i>	0.287	0.525	0.759	0.840
<i>Arctostaphylos alpina</i>	0.257	0.569	0.712	0.821
<i>Avenella flexuosa</i>	0.960	0.990	0.669	0.598
<i>Carex bigelowii</i>	0.173	0.325	0.640	0.714
<i>Carex lachenalii</i>	0.213	0.238	0.666	0.660
<i>Cryptogamma crispa</i>	0.052	0.102	0.533	0.620
<i>Diphasiastrum alpinum</i>	0.170	0.198	0.621	0.611
<i>Dryas octopetala</i>	0.049	0.030	0.611	0.608
<i>Gnaphalium supinum</i>	0.199	0.232	0.705	0.686
<i>Juncus trifidus</i>	0.243	0.554	0.656	0.840
<i>Loiseleura procumbens</i>	0.222	0.470	0.653	0.738
<i>Nardus stricta</i>	0.140	0.188	0.659	0.712
<i>Oxyria digyna</i>	0.187	0.247	0.652	0.650
<i>Phleum alpinum</i>	0.002	0.001	0.499	0.544
<i>Poa alpina</i>	0.036	0.096	0.472	0.587
<i>Polygonum viviparum</i>	0.335	0.347	0.622	0.618
<i>Potentilla crantzii</i>	0.116	0.238	0.558	0.684
<i>Ranunculus glacialis</i>	0.350	0.574	0.775	0.805
<i>Rhodiola rosea</i>	0.365	0.376	0.727	0.759
<i>Rubus chamaemorus</i>	0.199	0.484	0.660	0.815
<i>Salix herbacea</i>	0.394	0.409	0.799	0.732
<i>Salix reticulata</i>	0.150	0.216	0.655	0.696
<i>Saussurea alpina</i>	0.077	0.106	0.601	0.574
<i>Saxifraga oppositifolia</i>	0.042	0.120	0.594	0.637
<i>Sibbaldia procumbens</i>	0.350	0.411	0.718	0.759
<i>Silene acaulis</i>	0.184	0.349	0.687	0.732
<i>Solidago virgaurea</i>	0.530	0.524	0.860	0.836
<i>Thalictrum alpinum</i>	0.001	0.001	0.481	0.480
<i>Vaccinium uliginosum</i>	0.363	0.621	0.711	0.837
<i>Veronica alpina</i>	0.228	0.307	0.716	0.733
<i>Viola biflora</i>	0.155	0.216	0.608	0.681

Table S2. Fraction of deviance explained among the two groups of variables, the topo-climatic (TC) and biotic (BIO) predictors for the models of the 34 subordinate species. The adjusted geometric mean-squared improvement  $R^2$  was used as an estimator of the explained variance without adjustment for the number of observations and predictors. The sign of the estimate in the linear regression between the occurrence of the subordinate species and the biotic predictor in the linear form alone is also indicated with + and -. The associated p-value is also provided.

Species name	Sign	p-value	$R^2$ TC	$R^2$ BIO	$R^2$ shared	$R^2$ unexplained
<i>Agrostis mertensis</i>	-	0.190	0.123	0.026	0.013	0.838
<i>Alchemilla alpina</i>	-	0.523	0.168	0.055	0.085	0.691
<i>Antennaria dioica</i>	-	0.050	0.054	0.05	0.036	0.86
<i>Arabis alpina</i>	-	<0.001	0.104	0.382	0.175	0.34
<i>Arctostaphylos alpina</i>	+	<0.001	0.103	0.216	0.129	0.551
<i>Avenella flexuosa</i>	+	0.050	0.802	0.01	-0.019	0.207
<i>Carex bigelowii</i>	+	0.001	0.161	0.064	0.075	0.7
<i>Carex lachenalii</i>	-	0.451	0.251	0.058	-0.034	0.725
<i>Cryptogamma crispa</i>	-	0.023	0	0.174	0	0.826
<i>Diphysastrum alpinum</i>	+	0.136	0.085	0.018	0.028	0.868
<i>Dryas octopetala</i>	-	0.995	0.117	0.088	-0.058	0.853
<i>Gnaphalium supinum</i>	-	0.147	0.218	0.058	0.024	0.7
<i>Juncus trifidus</i>	+	0.004	0.336	0.186	-0.048	0.526
<i>Loiseleura procumbens</i>	+	<0.001	0.194	0.18	0.08	0.546
<i>Nardus stricta</i>	+	0.021	0.091	0.059	0.022	0.829
<i>Oxyria digyna</i>	-	0.008	0.135	0.187	0.049	0.63
<i>Phleum alpinum</i>	-	0.274	0.06	0.027	0.024	0.889
<i>Poa alpina</i>	-	0.034	0	0.136	0	0.864
<i>Polygonum viviparum</i>	-	0.122	0.236	0.08	0.064	0.62
<i>Potentilla crantzii</i>	-	0.052	0.019	0.131	0.049	0.801
<i>Ranunculus glacialis</i>	-	0.001	0.123	0.25	0.273	0.355
<i>Rhodiola rosea</i>	-	0.413	0.18	0.024	0.03	0.766
<i>Rubus chamaemorus</i>	+	<0.001	0.044	0.316	0.143	0.497
<i>Salix herbacea</i>	+	0.346	0.356	0.006	0.028	0.61
<i>Salix reticulata</i>	-	0.146	0.091	0.1	-0.026	0.835
<i>Saussurea alpina</i>	-	0.091	0.092	0.057	0.036	0.815
<i>Saxifraga oppositifolia</i>	-	0.010	0.063	0.209	-0.001	0.729
<i>Sibbaldia procumbens</i>	-	0.029	0.333	0.096	0.047	0.524
<i>Silene acaulis</i>	-	0.003	0.208	0.172	0.007	0.614
<i>Solidago virgaurea</i>	+	0.068	0.327	0.025	0.169	0.479
<i>Thalictrum alpinum</i>	-	0.868	0	0.016	0	0.984
<i>Vaccinium uliginosum</i>	+	0.001	0.083	0.161	0.114	0.643
<i>Veronica alpina</i>	-	0.003	0.181	0.165	0.054	0.6
<i>Viola biflora</i>	-	0.045	0.184	0.124	0.013	0.679

Table S3. Model coefficients for each of the 34 modelled species using the topoclimatic predictors in the linear (Lin.) and quadratic (Quad.) forms: degree-days (DDEG), moisture index (MIND), solar radiations (SRAD), temperature of the coldest quarter (TCQ), precipitations of the coldest quarter (PCQ) and intra-annual variation of precipitation (SDPREC).

Species name	DDEG		MIND		SRAD		TCQ		PCQ		SDPREC		
	Intercept	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.
<i>Agrostis mertensis</i>	-5.14E+01	4.32E-03	-9.07E-07	-3.99E-03	-7.26E-06	2.98E-03	-5.70E-08	1.11E-01	5.06E-04	1.40E-02	-3.23E-05	7.75E-01	-1.42E-02
<i>Alchemilla alpina</i>	2.51E+01	1.27E-03	-2.05E-08	7.73E-03	-1.50E-05	-2.54E-03	7.32E-08	8.72E-02	3.08E-04	3.78E-02	-1.72E-04	-1.70E-01	2.43E-03
<i>Antennaria dioica</i>	-1.62E+01	3.59E-03	-5.46E-07	-5.75E-03	-2.28E-05	2.01E-03	-3.46E-08	1.29E-01	5.20E-04	1.63E-02	-7.92E-05	-8.68E-01	1.68E-02
<i>Arabis alpina</i>	-2.40E+02	7.84E-03	-1.40E-06	2.67E-02	4.09E-05	1.73E-02	-3.38E-07	-1.55E-01	-8.26E-04	9.04E-02	-3.50E-04	-1.32E-01	2.05E-03
<i>Arctostaphylos alpina</i>	9.24E+00	-4.77E-03	1.30E-06	-1.48E-02	-4.56E-05	7.02E-04	-1.01E-08	-8.09E-02	-2.22E-04	-2.93E-02	4.73E-05	-1.20E+00	1.80E-02
<i>Avenella flexuosa</i>	-5.25E+04	2.68E+00	-4.59E-04	4.54E+01	6.12E-02	4.20E+00	-8.61E-05	-3.50E+01	-1.59E-01	5.46E+01	-1.25E-01	-5.75E+01	1.72E+00
<i>Carex bigelowii</i>	7.83E+01	2.46E-04	-2.18E-08	-1.11E-02	-2.44E-05	-5.09E-03	1.04E-07	1.20E-01	5.68E-04	-8.89E-04	4.89E-05	-6.92E-01	1.21E-02
<i>Carex lachenalii</i>	2.88E+01	8.44E-04	-3.25E-07	-1.38E-03	-1.16E-05	-4.02E-04	9.52E-09	3.31E-02	5.68E-05	-8.66E-02	1.70E-04	-9.66E-01	1.65E-02
<i>Cryptogramma crispum</i>	6.71E+00	1.73E-03	-1.82E-07	1.51E-02	1.07E-05	-1.75E-03	4.63E-08	3.24E-02	8.94E-05	-2.46E-02	1.79E-05	1.04E+00	-2.12E-02
<i>Diphysastrum alpinum</i>	6.93E+01	2.08E-03	-6.98E-07	-1.32E-02	-8.60E-06	-4.52E-03	8.93E-08	1.59E-01	6.62E-04	2.11E-02	-8.60E-05	-7.10E-01	1.39E-02
<i>Dryas octopetala</i>	3.38E+01	-1.75E-03	5.21E-07	-6.24E-03	-2.15E-05	-2.52E-03	6.18E-08	-5.78E-02	-2.27E-04	-3.38E-02	4.74E-05	-5.61E-01	9.27E-03
<i>Gnaphalium supinum</i>	7.61E+01	2.65E-03	-3.48E-07	8.49E-03	4.98E-06	-5.36E-03	1.23E-07	1.55E-01	6.29E-04	-2.06E-03	-7.36E-05	-7.80E-01	1.32E-02
<i>Juncus trifidus</i>	1.08E+02	-4.06E-03	9.30E-07	-4.82E-03	-4.26E-06	-7.90E-03	1.73E-07	6.37E-02	3.48E-04	-8.75E-03	-4.14E-05	-5.92E-01	9.61E-03
<i>Loiseleuria procumbens</i>	1.44E+02	-4.04E-03	8.99E-07	-1.41E-02	-3.24E-05	-1.34E-02	2.92E-07	3.54E-02	2.25E-04	4.77E-02	-1.75E-04	8.60E-01	-1.51E-02
<i>Nardus stricta</i>	-2.91E+01	9.90E-04	-5.52E-08	-4.55E-03	-1.68E-05	4.77E-04	-8.12E-09	-2.00E-02	-3.77E-05	4.47E-02	-9.84E-05	9.77E-01	-1.51E-02
<i>Oxyria digyna</i>	-3.66E+01	5.86E-03	-1.21E-06	2.04E-02	2.66E-05	4.24E-03	-8.27E-08	9.92E-02	3.41E-04	-5.34E-03	-2.39E-05	-9.83E-01	1.76E-02
<i>Phleum alpinum</i>	-4.43E+01	6.12E-04	-1.47E-07	-1.21E-03	-6.03E-07	4.36E-03	-8.87E-08	6.39E-02	2.78E-04	-1.17E-02	1.84E-05	-4.11E-01	6.63E-03
<i>Poa alpina</i>	-7.20E+00	4.35E-03	-8.11E-07	2.31E-02	3.39E-05	1.17E-03	-2.39E-08	9.97E-02	3.79E-04	4.14E-02	-1.10E-04	-6.42E-01	1.30E-02
<i>Polygonum viviparum</i>	-2.48E+00	4.91E-03	-1.54E-06	-1.81E-02	-1.71E-05	1.81E-03	-4.11E-08	1.33E-01	4.30E-04	-3.35E-02	1.66E-04	-7.38E-01	1.31E-02
<i>Potentilla crantzii</i>	-1.18E+02	6.08E-03	-1.10E-06	1.40E-02	2.73E-05	9.42E-03	-1.90E-07	6.46E-02	2.98E-04	6.06E-02	-1.58E-04	-6.53E-01	1.22E-02
<i>Ranunculus glacialis</i>	-4.34E+02	1.23E-02	-2.29E-06	4.87E-02	8.99E-05	3.57E-02	-7.47E-07	-7.43E-02	-3.97E-04	1.01E-01	-5.09E-04	-6.69E-01	9.94E-03

<i>Rhodiola rosea</i>	-6.76E+01	1.05E-03	3.37E-07	-1.04E-03	-5.21E-05	7.55E-03	-1.33E-07	-6.02E-02	-2.80E-04	-1.38E-01	2.40E-04	-1.75E+00	2.62E-02
<i>Rubus chamaemorus</i>	-2.61E+01	7.91E-04	1.10E-07	-2.86E-03	-3.43E-05	1.08E-03	-1.72E-08	-3.98E-02	-9.78E-05	5.25E-02	-1.44E-04	1.95E-01	-1.94E-03
<i>Salix herbacea</i>	1.96E+02	-1.16E-03	-7.92E-08	-7.11E-03	-6.59E-07	-1.32E-02	2.77E-07	2.13E-01	8.86E-04	-6.89E-02	1.09E-04	-1.31E+00	2.44E-02
<i>Salix reticulata</i>	-9.48E+00	3.32E-03	-8.00E-07	1.37E-02	2.82E-05	2.18E-03	-4.82E-08	6.44E-02	2.74E-04	2.22E-02	-7.12E-05	-1.30E+00	2.55E-02
<i>Saussurea alpina</i>	-4.65E+01	-4.00E-03	8.52E-07	-1.67E-02	-2.37E-05	3.88E-03	-8.38E-08	-8.19E-03	4.26E-06	1.65E-02	-8.65E-06	8.44E-02	-1.23E-03
<i>Saxifraga oppositifolia</i>	-8.38E+00	5.09E-03	-7.32E-07	3.36E-03	-5.08E-06	-3.38E-04	1.55E-08	-1.20E-01	-5.38E-04	-3.84E-02	8.73E-05	-1.26E-01	7.46E-04
<i>Sibbaldia procumbens</i>	5.24E+01	8.08E-03	-1.62E-06	2.78E-02	3.72E-05	-3.56E-03	8.72E-08	1.84E-01	7.27E-04	-2.57E-02	-1.50E-05	-6.14E-01	1.09E-02
<i>Silene acaulis</i>	5.80E+01	3.92E-03	-5.85E-07	7.22E-03	-9.32E-06	-4.64E-03	1.13E-07	1.60E-02	4.31E-05	-6.23E-02	8.03E-05	-3.94E-01	4.32E-03
<i>Solidago virgaurea</i>	1.47E+03	-1.24E-03	-3.46E-07	2.59E-03	3.92E-05	-1.25E-01	2.57E-06	7.08E-04	-3.30E-05	1.73E-01	5.84E-04	1.06E+00	-4.93E-03
<i>Thalictrum alpinum</i>	1.93E+01	1.03E-03	-1.81E-07	-6.35E-03	-1.56E-05	-1.27E-03	2.94E-08	4.94E-02	2.23E-04	4.05E-02	-1.05E-04	-7.63E-01	1.64E-02
<i>Vaccinium uliginosum</i>	-2.31E+02	3.41E-02	-5.50E-06	3.62E-01	4.41E-04	2.48E-02	-4.99E-07	-8.91E-02	-3.15E-04	4.91E-02	-1.34E-04	-4.17E+00	6.90E-02
<i>Veronica alpina</i>	-1.11E+00	1.59E-03	-1.36E-07	4.81E-04	-6.07E-06	8.69E-04	-9.10E-09	5.42E-02	1.86E-04	-2.40E-02	-1.44E-05	-6.58E-01	9.64E-03
<i>Viola biflora</i>	-5.74E+01	5.35E-03	-8.92E-07	-3.45E-03	-1.92E-05	4.77E-03	-9.58E-08	8.43E-02	3.00E-04	7.55E-02	-2.01E-04	-5.71E-01	1.04E-02

Table S4. Model coefficients for each of the 34 modelled species using the topoclimatic predictors in the linear (Lin.) and quadratic (Quad.) forms: degree-days (DDEG), moisture index (MIND), solar radiations (SRAD), temperature of the coldest quarter (TCQ), precipitations of the coldest quarter (PCQ), intra-annual variation of precipitation (SDPREC) and the frequency of *E. hermaphroditum* (BIO).

Species name	DDEG		MIND		SRAD		TCQ		PCQ		SDPREC		BIO		
	Intercept	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.	Lin.	Quad.
<i>Agrostis mertensis</i>	-4.22E+01	4.20E-03	-8.83E-07	-8.41E-03	-1.44E-05	2.18E-03	-4.09E-08	1.23E-01	5.96E-04	1.22E-02	-3.03E-05	7.71E-01	-1.37E-02	1.60E-01	-5.15E-03
<i>Alchemilla alpina</i>	2.79E+01	1.11E-03	1.52E-08	6.71E-03	-1.71E-05	-2.79E-03	7.81E-08	8.58E-02	3.14E-04	3.65E-02	-1.70E-04	-1.59E-01	2.34E-03	6.64E-02	-2.02E-03
<i>Antennaria dioica</i>	-8.24E+00	3.56E-03	-5.15E-07	-1.13E-02	-3.55E-05	1.37E-03	-2.16E-08	1.41E-01	6.02E-04	1.93E-02	-9.15E-05	-9.40E-01	1.86E-02	9.92E-02	-3.83E-03
<i>Arabis alpina</i>	-5.05E+02	1.16E-02	-2.14E-06	4.29E-02	5.74E-05	3.88E-02	-7.67E-07	-3.28E-02	-1.41E-04	1.76E-01	-6.08E-04	-6.79E-01	1.48E-02	7.56E-02	-7.43E-03
<i>Arctostaphylos alpina</i>	-4.21E+01	-7.65E-03	2.09E-06	-2.25E-02	-5.43E-05	4.43E-03	-8.42E-08	-1.92E-01	-7.61E-04	-9.15E-02	1.99E-04	-8.13E-01	6.91E-03	8.67E-02	3.50E-03
<i>Avenella flexuosa</i>	-4.67E+04	2.67E+00	-3.70E-04	3.18E+01	3.69E-02	3.80E+00	-7.66E-05	-5.71E+01	-2.46E-01	2.24E+01	-5.95E-02	-1.69E+02	2.55E+00	2.90E+01	-8.97E-01
<i>Carex bigelowii</i>	5.57E+01	2.01E-03	-3.88E-07	-4.78E-03	-1.25E-05	-3.01E-03	6.29E-08	1.59E-01	6.79E-04	-6.61E-03	-4.39E-05	-8.13E-01	1.36E-02	-1.53E-01	6.89E-03
<i>Carex lachenalii</i>	3.76E+01	1.09E-03	-3.64E-07	-2.09E-02	-1.50E-05	-1.14E-03	2.47E-08	1.68E-02	4.74E-06	-1.09E-01	2.19E-04	-9.59E-01	1.61E-02	1.88E-01	-5.27E-03
<i>Cryptogamma crispa</i>	1.71E+01	1.43E-03	-1.01E-07	1.41E-02	3.69E-06	-2.39E-03	5.95E-08	3.95E-02	1.57E-04	-2.07E-02	7.64E-07	9.85E-01	-2.05E-02	-5.10E-02	-5.04E-04
<i>Diphysastrum alpinum</i>	6.44E+01	1.94E-03	-7.02E-07	-1.25E-02	-3.76E-06	-3.97E-03	7.76E-08	1.69E-01	6.73E-04	1.24E-02	-6.37E-05	-7.30E-01	1.39E-02	-1.23E-02	1.63E-03
<i>Dryas octopetala</i>	3.57E+01	-1.80E-03	5.40E-07	-6.63E-03	-2.33E-05	-2.67E-03	6.50E-08	-5.92E-02	-2.25E-04	-3.33E-02	4.50E-05	-5.73E-01	9.54E-03	1.59E-02	-7.44E-04
<i>Gnaphalium supinum</i>	8.98E+01	2.38E-03	-2.91E-07	6.29E-03	2.03E-06	-6.55E-03	1.47E-07	1.57E-01	6.69E-04	-7.99E-03	-6.19E-05	-7.36E-01	1.27E-02	1.82E-01	-5.38E-03
<i>Juncus trifidus</i>	1.71E+02	-6.08E-03	1.45E-06	6.76E-03	4.75E-05	-1.23E-02	2.64E-07	1.07E-01	4.87E-04	-1.08E-01	1.55E-04	-7.60E-01	1.08E-02	7.64E-01	-1.49E-02
<i>Loiseleuria procumbens</i>	1.77E+02	-2.90E-03	7.51E-07	-1.16E-02	-2.29E-05	-1.75E-02	3.85E-07	3.77E-02	1.82E-04	4.16E-02	-1.78E-04	1.62E+00	-3.01E-02	9.44E-04	4.37E-03
<i>Nardus stricta</i>	-4.00E+01	1.01E-03	-8.92E-08	-3.52E-03	-9.91E-06	1.20E-03	-2.41E-08	-1.75E-02	-5.94E-05	3.49E-02	-6.98E-05	1.15E+00	-1.85E-02	6.73E-02	-8.60E-05
<i>Oxyria digyna</i>	-3.69E+01	6.67E-03	-1.38E-06	2.20E-02	2.52E-05	4.35E-03	-8.52E-08	1.11E-01	4.28E-04	8.36E-03	-6.16E-05	-1.10E+00	2.05E-02	9.47E-03	-2.04E-03
<i>Pheum alpinum</i>	-4.39E+01	4.03E-04	-1.01E-07	-2.84E-03	-3.86E-06	4.32E-03	-8.85E-08	6.19E-02	2.87E-04	-1.40E-02	2.29E-05	-4.17E-01	6.87E-03	8.52E-02	-2.71E-03

<i>Poa alpina</i>	1.02E+00	4.35E-03	-8.19E-07	2.28E-02	2.83E-05	7.67E-04	-1.56E-08	1.18E-01	4.76E-04	6.13E-02	-1.62E-04	-8.52E-01	1.76E-02	-9.79E-02	8.44E-04
<i>Polygonum viviparum</i>	9.68E+00	4.70E-03	-1.49E-06	-2.15E-02	-2.55E-05	6.16E-04	-1.47E-08	8.70E-02	2.46E-04	-8.13E-02	3.08E-04	-6.33E-01	1.06E-02	2.30E-01	-6.14E-03
<i>Potentilla crantzii</i>	-1.66E+02	6.87E-03	-1.26E-06	1.13E-02	1.97E-05	1.35E-02	-2.75E-07	9.31E-02	5.03E-04	7.35E-02	-1.94E-04	-8.52E-01	1.67E-02	1.63E-01	-7.02E-03
<i>Ranunculus glacialis</i>	-5.17E+02	1.95E-02	-2.75E-06	1.03E-01	1.07E-04	4.54E-02	-9.35E-07	-4.87E-02	3.86E-06	-3.58E-02	-3.80E-04	-2.13E+00	2.65E-02	1.57E-01	-1.36E-02
<i>Rhodiola rosea</i>	-8.12E+01	1.25E-03	3.49E-07	1.10E-04	-5.62E-05	8.92E-03	-1.59E-07	-5.28E-02	-2.47E-04	-1.29E-01	2.12E-04	-1.96E+00	2.98E-02	-1.61E-01	3.56E-03
<i>Rubus chamaemorus</i>	-4.38E+01	3.36E-04	3.17E-07	-5.58E-03	-3.42E-05	1.83E-03	-3.18E-08	-8.78E-02	-3.50E-04	2.89E-02	-8.43E-05	4.27E-01	-6.80E-03	3.29E-01	-4.46E-03
<i>Salix herbacea</i>	2.06E+02	-1.90E-03	-2.17E-09	-7.81E-03	4.85E-06	-1.37E-02	2.86E-07	2.35E-01	9.46E-04	-9.42E-02	1.66E-04	-1.38E+00	2.57E-02	1.80E-01	-3.33E-03
<i>Salix reticulata</i>	-5.99E+00	3.89E-03	-9.26E-07	1.57E-02	2.67E-05	2.21E-03	-4.95E-08	9.48E-02	4.38E-04	4.59E-02	-1.36E-04	-1.55E+00	3.12E-02	-2.94E-02	-1.22E-03
<i>Saussurea alpina</i>	-4.08E+01	-4.08E-03	8.84E-07	-1.79E-02	-2.97E-05	3.47E-03	-7.54E-08	-3.98E-03	4.85E-05	2.65E-02	-3.65E-05	2.40E-02	2.61E-04	-9.30E-03	-1.09E-03
<i>Saxifraga oppositifolia</i>	2.88E+00	5.79E-03	-8.15E-07	5.49E-04	-1.49E-05	-1.50E-03	3.89E-08	-1.32E-01	-5.28E-04	-2.89E-02	6.19E-05	-1.39E-01	1.82E-03	1.14E-01	-5.25E-03
<i>Sibbaldia procumbens</i>	6.69E+01	9.23E-03	-1.86E-06	3.07E-02	4.03E-05	-4.77E-03	1.12E-07	2.02E-01	8.45E-04	-3.14E-02	-1.04E-05	-6.30E-01	1.17E-02	2.03E-01	-6.67E-03
<i>Silene acaulis</i>	8.60E+01	4.75E-03	-6.40E-07	7.41E-03	-2.40E-05	-6.89E-03	1.65E-07	1.11E-02	7.96E-05	-5.22E-02	3.08E-05	-6.52E-01	9.24E-03	-2.33E-02	-2.49E-03
<i>Solidago virgaurea</i>	1.42E+03	-1.15E-03	-2.36E-07	4.27E-03	3.26E-05	-1.20E-01	2.47E-06	-5.11E-03	-9.98E-05	-8.35E-02	1.75E-03	1.36E+00	-1.09E-02	-6.42E-02	2.53E-03
<i>Thalictrum alpinum</i>	2.16E+01	9.76E-04	-1.62E-07	-6.97E-03	-1.83E-05	-1.43E-03	3.28E-08	4.93E-02	2.33E-04	4.37E-02	-1.14E-04	-7.87E-01	1.69E-02	-1.30E-02	-2.14E-04
<i>Vaccinium uliginosum</i>	-5.43E+02	6.45E-02	-1.05E-05	7.10E-01	8.92E-04	5.43E-02	-1.08E-06	-5.86E-01	-3.02E-03	1.50E-01	-3.65E-04	-9.27E+00	1.57E-01	-5.62E-01	3.10E-02
<i>Veronica alpina</i>	5.14E+00	2.15E-03	-1.98E-07	-1.03E-03	-1.44E-05	3.80E-04	1.47E-09	6.04E-02	2.58E-04	-2.23E-02	-2.88E-05	-7.46E-01	1.15E-02	9.83E-02	-4.40E-03
<i>Viola biflora</i>	-5.18E+01	5.66E-03	-8.88E-07	-6.16E-03	-2.96E-05	4.03E-03	-8.03E-08	5.91E-02	2.29E-04	6.97E-02	-1.92E-04	-4.93E-01	9.06E-03	1.68E-01	-5.64E-03

## Appendix 2

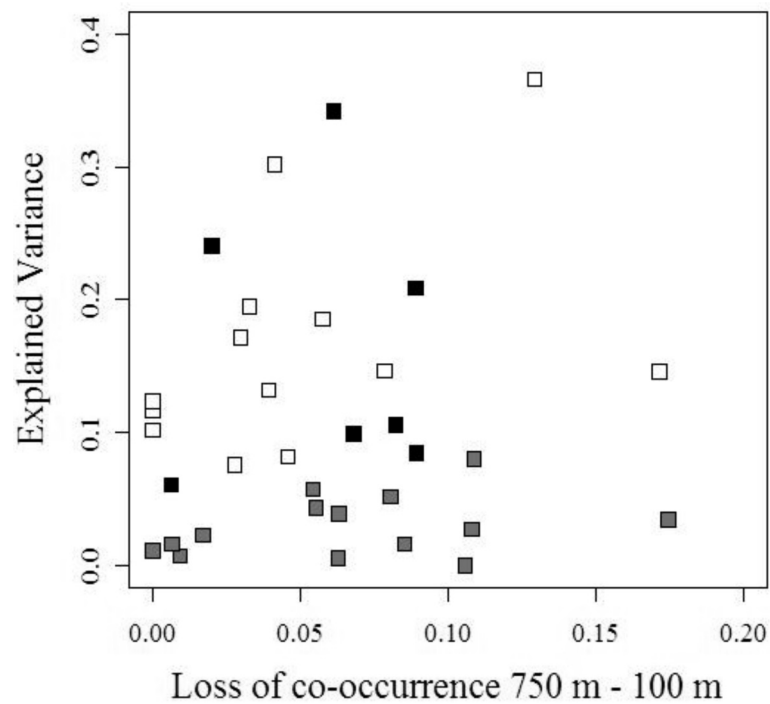


Figure S1. Improvement of the model for each of the species plotted against the loss of co-occurrence between 750 m and 100 m. The colors represent the three groups of species: species with a significant positive linear relationship with the biotic predictor (black), with a significant negative relationship (white) and finally the species that showed no significant relationship (grey).