

Supplementary Table ST1: Landscape (a) and local variables (b); species traits and demographic data (c); fragmentation table (d); correlation between soil and landscape variables (e)

a)

LANDSCAPE VARIABLES		GRAF	SC	RIV1	RIV2	FAGA	FAGB	MCA	MCB	CUS	TO
Locality		Graffignana	San Colombano	Riv. Bosco Nord	Riv. Bosco Sud-Ovest	Fagiana A	Fagiana B	M.te Canto (A)	M.te Zocca-Brocchio (B)	Cusago	Collina di Superga
Municipality		Graffignana	S.Colombano	Rivanazzano	Rivanazzano	Fagiana	Fagiana	Mapello	Palazzago	Cusago	Torino
Coord. X (WGS-84; UTM zone 32N)		534991 E	534991 E	503737 E	503706 E	486526 E	486474 E	541676 E	541387 E	500502 E	401436 E
Coord. Y (WGS-84; UTM zone 32N)		5004624 N	5004624 N	4974641 N	4974114 N	5031501 N	5031035 N	5062857 N	5065739 N	5032874 N	4992995 N
Habitat size (ha)	Hab_sz	4	1	2	4	3	2	7.5	5	12	4
Habitat quality (1 = low; 2 = medium; 3 = high)	Hab_qu	1	1	3	3	2	2	3	2	2	1
Habitat type (1 = Oak; 2 = Chestnut)	Hab_ty	2	1	1	1	1	1	2	1	1	2
Habitat fragmentation	Hab_fra	2	3	1	1	1	1	1	1	2	1

b)

LOCAL VARIABLES		GRAF	SC	RIV1	RIV2	FAGA	FAGB	MCA	MCB	CUS	TO
Mg (mg/100g soil)	Mg	8.73	7.01	16.15	30.19	4.32	3.10	14.38	15.84	5.62	43.58
Ca (mg/100g soil)	Ca	17.28	23.86	84.68	69.64	18.33	11.11	92.76	130.10	23.91	24.95
K (mg/100g soil)	K	5.42	6.08	10.89	10.37	7.11	6.31	14.02	18.77	11.34	6.12
pH	pH	3.6	3.5	4.2	4.1	3.7	3.6	3.9	4.2	3.4	4.1
Total N (%)	N%	0.09	0.16	0.16	0.11	0.34	0.50	0.23	0.28	0.40	0.19
Total C (%)	C%	0.98	2.29	1.77	1.86	4.89	7.62	2.59	3.49	6.16	2.63
C/N ratio	C/N	11.09	14.37	12.06	16.86	14.16	15.07	11.13	12.07	15.42	14.05
P (mg/100g soil)	P	0.01	0.12	0.09	0.09	0.39	0.37	0.17	0.38	1.37	0.20
Slope	Slope	30.00	15.00	20.00	25.00	0.00	0.00	27.00	20.00	0.00	30.00
Alien species presence	Alien	1	1	0	0	1	1	0	0	1	1
<i>Metcalfa pruinosa</i> presence	Metca	1	1	1	0	1	1	0	0	1	1
Elevation	Elev	130	16	235	370	126	111	330	470	140	300

c)

DEMOGRAPHIC DATA AND TRAITS		Abbreviation	GRAF	SC	RIV1	RIV2	FAGA	FAGB	MCA	MCB	CUS	TO
Flowering adult	FLad	22	3	13	94	90	8	64	22	9	420	
Non-flowering adult	Non_FLad	15	10	6	182	73	31	163	34	146	190	
Seedling/Juvenile	Seed/Juv	13	3	13	102	73	28	173	28	54	45	
Pop size	Pop_sz	50	16	32	378	236	67	400	84	209	655	
Inflorescence size	Infl_sz	6.6	6.2	7.0	7.9	5.9	5.5	5.8	5.3	5.0	8.4	
N° comp umb	Comp_umb	2.7	2.3	4.8	3.3	3.9	2.3	4.5	1.3	2.8	4.0	
N° simp umb	Simp_umb	14.4	17.3	16.8	14.9	15.0	14.9	13.5	12.8	15.9	17.0	
Plant height	Pl_H	77.9	92.7	99.2	82.5	85.2	90.2	71.0	42.2	68.9	94.7	
Lateral spread	Lat_spr	47.8	47.1	48	41.6	34.3	42.3	45.0	33.3	54.4	49.2	
N° leaves	N_leav	2.4	3.0	3.2	2.1	2.5	3.3	2.5	2.7	3.3	3.1	
Seed weight	SW	0.0157	0.0	0.0163	0.0177	0.0158	0.0171	0.0349	0.0089	0.0045	0.0105	
Genetic diversity	H_Nei	0.130	0.087	0.114	0.119	0.099	0.121	0.084	0.071	0.155	0.112	

d)

FRAGMENTATION TABLE		SCORING: 1 = 1-10; 2 = 11-20; 3 = 20-30									
		GRAF	SC	RIV1	RIV2	FAGA	FAGB	MCA	MCB	CUS	TO
Distance from the closest patch (1-10): 1= less than 0.5 km; 2= 0.5-1 km; 3= 1-2 km; 4=2-5 km; 5= 5-10 km; 6= 10-20 km; 7= 20-40 km; 8=40-80 km; 9=80-100 km; 10 = more than 100 km		3	3	1	1	2	2	4	4	7	9
Dissection/perforation (0-10): presence of forest roads, paths, buildings, clearings, etc		6	10	1	1	5	4	2	2	4	0
Shrinkage (1-10): 1 very small and linear-10 big and rounded		5	9	4	1	1	3	1	4	2	1
		14	22	6	3	8	9	7	10	13	10

e)

CORRELATION BETWEEN SOIL/ENVIRONMENTAL VARIABLES ACCORDING TO SPEARMAN

	Mg	Ca	K	pH	N%	C%	C/N	P	Hab_sz	Hab_qu	Hab_ty	Hab_fra	
Mg			0.028883	0.67607	0.01333	0.053718	0.089724	0.5334	0.1869	0.58551	0.61918	0.33359	0.34083
Ca	0.68485			0.009222	0.015801	0.65148	0.55631	0.51089	0.93377	0.18593	0.10762	0.91702	0.24625
K	0.15152	0.7697			0.20042	0.29305	0.42504	0.98674	0.22911	0.072077	0.019077	0.45774	0.1925
pH	0.74545	0.73333	0.44242			0.34659	0.34659	0.34659	0.48878	0.79977	0.1925	0.91702	0.019077
N%	-0.62424	-0.16364	0.3697	-0.33333			1.47E-06	0.31038	0.00034361	0.63403	0.90188	0.33359	0.57522
C%	-0.56364	-0.21212	0.28485	-0.33333		0.97576		0.16152	0.00011203	0.62177	0.90188	0.33359	0.57522
C/N	-0.22424	-0.23636	0.0060606	-0.33333		0.35758	0.47879		0.22911	0.78667	0.80494	0.043703	0.85319
P	-0.45455	-0.030303	0.41818	-0.24848		0.90303	0.92727	0.41818		0.31126	0.90188	0.33359	0.71034
Hab_sz	0.19695	0.45544	0.59084	0.092319		0.17233	0.17848	-0.098473	0.35697		0.56918	0.32565	0.85093
Hab_qu	0.17979	0.53936	0.71915	0.44947		0.044947	-0.044947	0.089893	-0.044947	0.2054		0.43037	0.076698
Hab_ty	0.34188	0.037987	-0.26591	0.037987		-0.34188	-0.34188	-0.64578	-0.34188	0.34718	-0.28172		1
Hab_fra	-0.3371	-0.40452	-0.44947	-0.71915		-0.20226	-0.20226	0.06742	-0.13484	-0.068465	-0.58333	8.40E-20	