

Supplementary Information

“Low genetic diversity and potential inbreeding in an isolated population of alder buckthorn (*Frangula alnus*) following a founder effect”

Caroline MV Finlay, Caroline R Bradley, S Jane Preston, Jim Provan

Table S1 Allele frequencies by locus and subpopulation.

Table S2 Diversity statistics for each locus by subpopulation.

Table S3 *Frangula alnus* chloroplast microsatellite primers.

Figure S1 Map showing locations of individual trees.

Figure S2 Results of the BAPS analysis.

Table S1 Allele frequencies by locus and subpopulation.

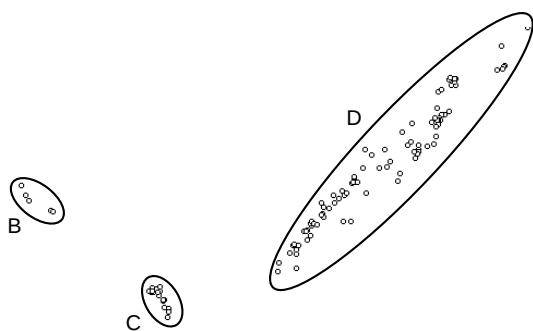
Locus	Allele	Subpopulation				
		A	B	C	D	E
FaB101	232	0.650	0.500	0.571	0.605	1.000
	236	0.350	0.500	0.429	0.390	
	240				0.005	
FaA110	315				0.006	
	317	0.200	0.125	0.300	0.218	0.500
	319	0.100	0.125	0.275	0.149	
	321	0.550	0.375	0.375	0.420	0.500
	329	0.150	0.375	0.050	0.207	
FaB7	122	0.045				
	124				0.011	
	126	0.955	1.000	1.000	0.967	0.667
	128					0.033
	138				0.022	
FaA104	172				0.011	0.333
	174				0.005	
	176				0.005	
	178	0.864	0.750	0.929	0.841	0.667
	190				0.011	
	192	0.136	0.250	0.071	0.104	
	194				0.011	
	200				0.011	
FaB106	223				0.011	
	225			0.238	0.211	
	229		0.167		0.039	0.167
	231	0.091				
	239	0.919	0.833	0.762	0.722	0.666
	241				0.006	0.167
	247				0.011	
FaB4	279				0.039	
	281	0.150	0.167	0.225	0.072	
	283	0.850	0.833	0.775	0.796	0.833
	287				0.013	
	293				0.013	
	297				0.046	0.167
	301				0.007	
	305				0.013	
FaA7	150		0.167			
	160	0.091			0.011	
	164	0.409	0.033	0.429	0.242	
	178		0.083	0.048	0.049	
	184	0.136			0.032	
	186	0.364	0.033	0.476	0.615	1.000
	200		0.083	0.048	0.049	
FaA3	288	0.100			0.140	
	294	0.900	1.000	1.000	0.815	1.000
	300				0.045	
FaB9	284	0.273		0.071	0.056	
	290				0.006	
	292	0.227	0.500	0.048	0.270	0.833
	296		0.100			
	298	0.045				
	300			0.048	0.079	
	302	0.455	0.400	0.833	0.590	0.167

Table S2 Diversity statistics for each locus by subpopulation. Abbreviations: H_O , observed heterozygosity; H_E , expected heterozygosity; F_{IS} , inbreeding coefficient. Significance of F_{IS} - * $P < 0.05$; ** $P < 0.01$; NS – non-significant.

Subpopulation	Locus								
	FaB101	FaA110	FaB7	FaA104	FaB106	FaB4	FaA7	FaA3	FaB9
A	$H_O = 0.500$	$H_O = 0.600$	$H_O = 0.091$	$H_O = 0.273$	$H_O = 0.000$	$H_O = 0.100$	$H_O = 1.000$	$H_O = 0.000$	$H_O = 0.182$
	$H_E = 0.479$	$H_E = 0.658$	$H_E = 0.091$	$H_E = 0.247$	$H_E = 0.173$	$H_E = 0.268$	$H_E = 0.706$	$H_E = 0.189$	$H_E = 0.697$
	$F_{IS} = -0.047^{NS}$	$F_{IS} = 0.092^{NS}$	$F_{IS} = 0.000^{NS}$	$F_{IS} = -0.111^{NS}$	$F_{IS} = 1.000^*$	$F_{IS} = 0.640^{NS}$	$F_{IS} = -0.447^{NS}$	$F_{IS} = 1.000^{NS}$	$F_{IS} = 0.748^{**}$
B	$H_O = 0.667$	$H_O = 0.500$	$H_O = 0.000$	$H_O = 0.500$	$H_O = 0.000$	$H_O = 0.333$	$H_O = 0.833$	$H_O = 0.000$	$H_O = 0.800$
	$H_E = 0.545$	$H_E = 0.786$	$H_E = 0.000$	$H_E = 0.409$	$H_E = 0.303$	$H_E = 0.303$	$H_E = 0.803$	$H_E = 0.000$	$H_E = 0.644$
	$F_{IS} = -0.250^{NS}$	$F_{IS} = 0.400^{NS}$	$F_{IS} = N/A$	$F_{IS} = -0.250^{NS}$	$F_{IS} = 1.000^{NS}$	$F_{IS} = -0.111^{NS}$	$F_{IS} = -0.042^{NS}$	$F_{IS} = N/A$	$F_{IS} = -0.280^{NS}$
C	$H_O = 0.762$	$H_O = 0.750$	$H_O = 0.000$	$H_O = 0.143$	$H_O = 0.095$	$H_O = 0.150$	$H_O = 0.952$	$H_O = 0.000$	$H_O = 0.190$
	$H_E = 0.502$	$H_E = 0.709$	$H_E = 0.000$	$H_E = 0.136$	$H_E = 0.372$	$H_E = 0.358$	$H_E = 0.599$	$H_E = 0.000$	$H_E = 0.303$
	$F_{IS} = -0.538^{NS}$	$F_{IS} = -0.059^{NS}$	$F_{IS} = N/A$	$F_{IS} = -0.053^{NS}$	$F_{IS} = 0.748^{**}$	$F_{IS} = 0.587^*$	$F_{IS} = -0.613^{NS}$	$F_{IS} = N/A$	$F_{IS} = 0.377^*$
D	$H_O = 0.472$	$H_O = 0.563$	$H_O = 0.000$	$H_O = 0.197$	$H_O = 0.233$	$H_O = 0.197$	$H_O = 0.648$	$H_O = 0.169$	$H_O = 0.213$
	$H_E = 0.485$	$H_E = 0.715$	$H_E = 0.065$	$H_E = 0.283$	$H_E = 0.434$	$H_E = 0.359$	$H_E = 0.560$	$H_E = 0.316$	$H_E = 0.586$
	$F_{IS} = 0.026^{NS}$	$F_{IS} = 0.214^{**}$	$F_{IS} = 1.000^{**}$	$F_{IS} = 0.303^{**}$	$F_{IS} = 0.464^{**}$	$F_{IS} = 0.452^{**}$	$F_{IS} = -0.159^{NS}$	$F_{IS} = 0.469^{**}$	$F_{IS} = 0.637^{**}$
E	$H_O = 0.000$	$H_O = 1.000$	$H_O = 0.000$	$H_O = 0.000$	$H_O = 0.333$	$H_O = 0.333$	$H_O = 0.000$	$H_O = 0.000$	$H_O = 0.333$
	$H_E = 0.000$	$H_E = 1.000$	$H_E = 0.533$	$H_E = 0.533$	$H_E = 0.600$	$H_E = 0.333$	$H_E = 0.000$	$H_E = 0.000$	$H_E = 0.333$
	$F_{IS} = N/A$	$F_{IS} = N/A$	$F_{IS} = 1.000^{NS}$	$F_{IS} = 1.000^{NS}$	$F_{IS} = 0.500^{NS}$	$F_{IS} = 0.000^{NS}$	$F_{IS} = N/A$	$F_{IS} = N/A$	$F_{IS} = 0.000^{NS}$

Table S3 *Frangula alnus* chloroplast microsatellite primers.

Locus	Repeat	Region	Primers	Size
FaCPSSR1	(T) ₁₀	<i>trnL-trnF</i> intergenic	CCAAACCAAATGATTAATGACG ATATTTCGATTCTGTTTTCAACTTGG	126 bp
FaCPSSR2	(A) ₁₀	<i>atpI-rpoC2</i> intergenic	TCAATGGTCAATCTCCGGTA TTCTCCCCACACTTCTTATCG	146 bp
FaCPSSR3	(A) ₁₁	<i>trnT-trnD</i> intergenic	TTTTTCTTTATTTTACTCTTTTCCTTAGA ATATATCTCTACTGCTATTTATTTACTC	154 bp
FaCPSSR4	(A) ₁₁	<i>trnH-trnK</i> intergenic	TGTCAAACCATTACCTTTTT CCTTTCTTTTACTTTTATATTTATATATGTTCTTC	172 bp
EU749835	(T) ₁₀	<i>psbK-psbI</i> intergenic	GAAAAACTCCACTTTTATTACAAATATTACA AACACCAAGAACGAAGGTTTT	118 bp
EU750523	(A) ₁₁	<i>trnH-psbA</i> intergenic	AAGATGAAATACAAGATAAAAGATAATGG TCAACTAATTCTTCGTTATGTAGAAACC	176 bp



E

A

