Supplementary Material

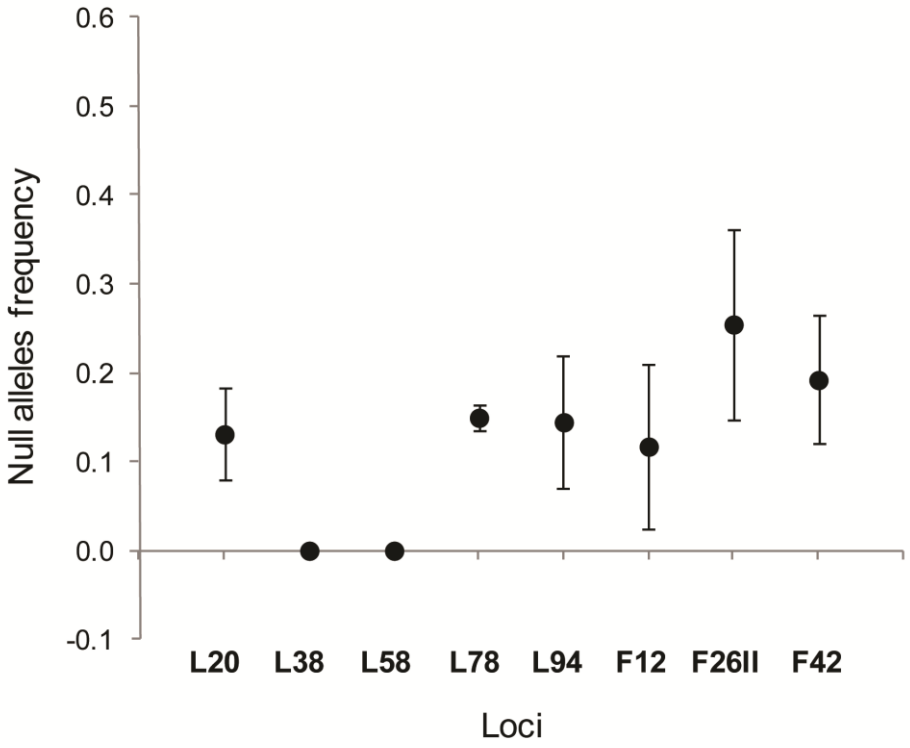

Figure S1. Null allele frequency for all loci. Dots correspond to the mean frequency across populations for each locus calculated using Estimator 1 from Brookfield (1996). Vertical bars represent the standard deviation for the estimated values.

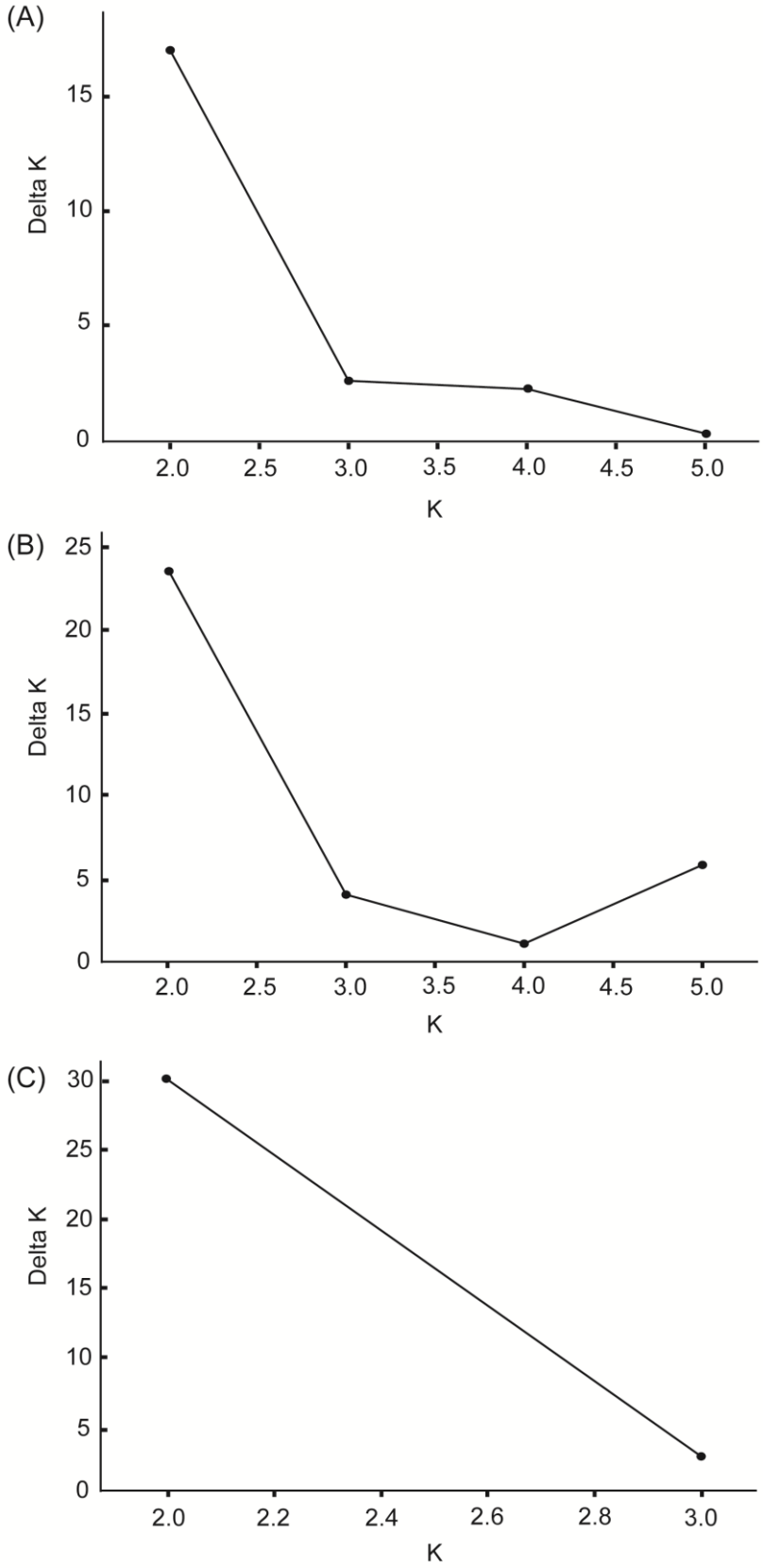

Figure S2. Magnitude of Δ*K* as a function of *K* for (A) Fucus spiralis, (B) F. guiryi and (C) F. vesiculosus. The modal value of Δ*K* that is based on the rate of change in the log probability of data between successive *K* values is considered as the highest level of population structuring.

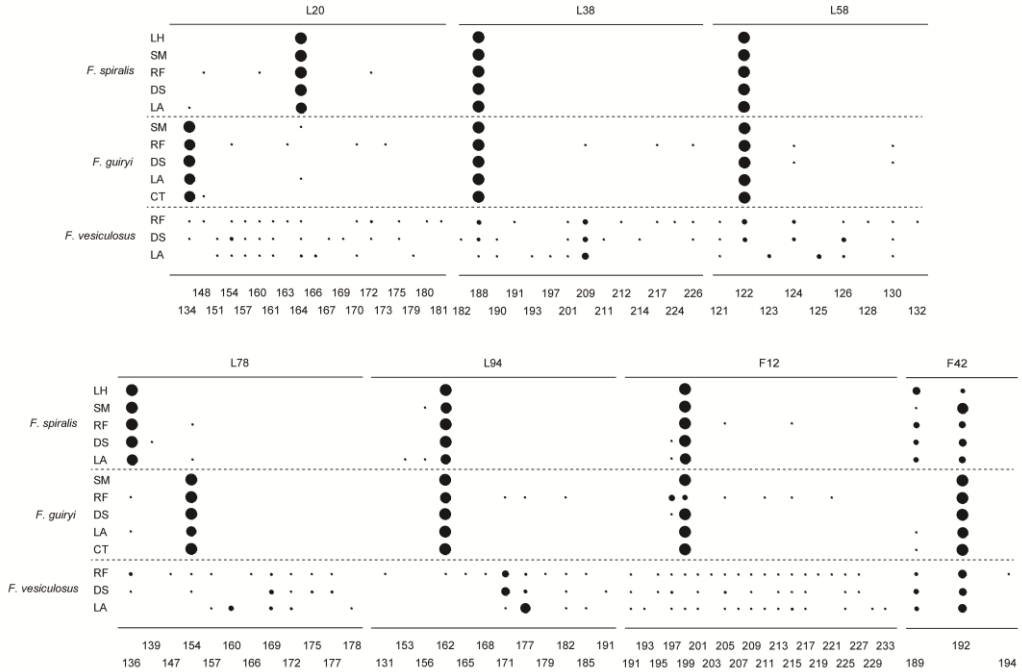

Figure S3. Allelic frequencies for Fucus spiralis, F. guiryi and F. vesiculosus, for each locus and location. Dots of varying diameter represent the frequency of the allele classes indicated below. Codes correspond to locations in Table 1.

Table S1. PCR conditions. Mixture and program for the microsatellites amplified following Engel et al. (2003) for L20, L38, L58, L78, L94; Wallace et al. (2004) for F26II; Coyer et al. (2009) for F42. (*) indicates a touchdown step: decrease in 0.2 °C per cycle.

Reagent	L20, L38, L58, L78, L94	F26II	F12, F42
5× GoTaq Flexi buffer	√	√	√
25 mM $MgCl_2$	√	√	√
Each dNTP (mM)	1	1	4
Forward primer (µM)	5	10	5
Reverse primer (µM)	10	10	10
Water volume (µL)	4.2	3.3	5.5
5U GoTaq ® DNA Polymerase	√	√	√
Final volume per sample (µL)	10	9	10
DNA diluted 1:10 (µL)	5	1	1
Program			

94°C 5'
94°C 30"
Ta°C 35" } 30 cycles
72°C 40"
72°C 20'

Locus	Ta°C
L20	54
L38	55
L58	53
L78	55
L94	57

94°C 5'
94°C 30"
60°C 30" } 35 cycles
72°C 40"
72°C 20'

94°C 5'
94°C 20"
60°C * 10" } 25 cycles
72°C 35"
94°C 20"
55°C 10" } 10 cycles
72°C 35"
72°C 20'

Table S2. Pairwise genetic differentiation for (A) *Fucus spiralis*, (B) *F. guiryi* and (C) *F. vesiculosus*. Mean values of F_{ST} with the estimator θ are reported above the diagonal, while mean D_{Jost} values are reported below the diagonal. 95% confidence intervals are in brackets. Codes correspond to locations in Table 1.

(A)

	LH	SM	RF	DS	LA
LH		0.4248 (0.2095,0.6288)	0.0278 (-0.0432,0.1966)	0.0722 (-0.0456,0.2829)	0.0735 (-0.0179,0.2156)
SM	0.0081 (0.0038,0.0128)		0.2100 (0.0548,0.3768)	0.1627 (0.0194,0.3487)	0.1432 (0.0437,0.2905)
RF	0.0009 (-0.0006,0.0043)	0.0041 (0.0008,0.0081)		0.0146 (-0.0480,0.0815)	0.0247 (-0.0255,0.1066)
DS	0.0018 (-0.0007,0.0061)	0.0030 (0.0003,0.0068)	0.0001 (-0.0009,0.0026)		0.0266 (-0.0250,0.1100)
LA	0.0081 (-0.0003,0.0259)	0.0061 (0.0004,0.0181)	0.0009 (-0.0036,0.0128)	0.0014 (-0.0030,0.0127)	

(B)

	SM	RF	DS	LA	CT
SM		0.3292 (0.1688,0.5330)	0.0034 (-0.0210,0.0530)	0.0734 (-0.0094,0.1800)	0.0091 (-0.0364,0.0801)
RF	0.0072 (0.0028,0.0123)		0.2812 (0.1115,0.4818)	0.2597 (0.1362,0.4141)	0.2980 (0.1498,0.4817)
DS	0.0001 (0.0000,0.0004)	0.0066 (0.0021,0.0116)		0.0827 (0.0104,0.1784)	0.0192 (-0.0208,0.0812)
LA	0.0012 (-0.0005,0.0058)	0.0091 (0.0030,0.0181)	0.0019 (-0.0005,0.0068)		0.0532 (-0.0072,0.1421)
GT	0.0001 (-0.0001,0.0007)	0.0073 (0.0028,0.0125)	0.0003 (-0.0001,0.0011)	0.0010 (-0.0006,0.0048)	

(C)

	RF	DS	LA
RF		0.0233 (0.0039,0.0480)	0.1303 (0.0946,0.1727)
DS	0.0561 (0.0121,0.1066)		0.1320 (0.0996,0.1679)
LA	0.2217 (0.1423,0.3207)	0.2260 (0.1570,0.2927)	