

Genetic variation of the spiny spider crab *Maja brachydactyla* in the northeastern Atlantic

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Appendix 1

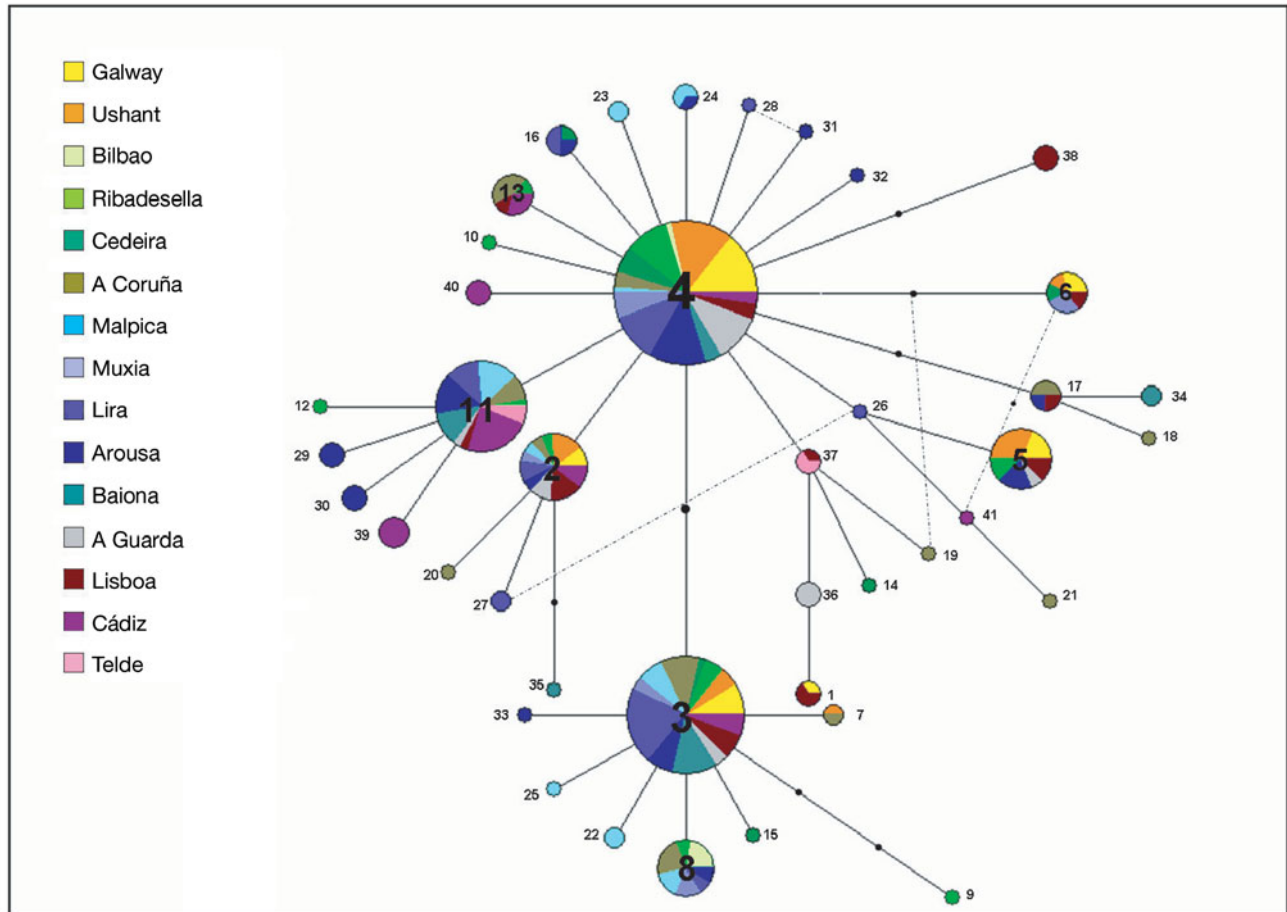


Fig. A1. Haplotype network for COI. Circles represent haplotypes with sizes proportional to their frequency and colours representing the localities where they were sampled. Solid lines connecting haplotypes represent mutational steps, and black dots are missing or unsampled haplotypes. Dashed lines connecting haplotypes represent reticulations resolved before constructing the cladogram

Table A1. Effective population sizes estimates (considered unreliable) from LAMARC and ONeSAMP. n is the sample size

Locality	n	COI LAMARC	Microsatellites ONeSAMP
Galway	25	413 000	127
Ushant	25	322 500	55
Bilbao	4	n.a	6
Ribadesella	20	3 827 000	49
Cedeira	10	33 507 500	19
A Coruña	26	1 223 500	42
Malpica	20	514 500	85
Muxía	10	182 500	16
Lira	36	509 500	353
Arousa	37	3 725 500	126
Baiona	17	303 000	33
A Guarda	18	1 902 500	67
Lisboa	22	1 589 000	106
Cádiz	25	411 500	139
Telde	4	n.a.	5

n.a.: not available

Table A2. Pairwise distances between populations based on COI data. TrN values are below the diagonal and D_A , above the diagonal. Significant values after FDR procedure are indicated in bold

	Galway	Ushant	Bilbao	Ribadesella	Cedeira	A Coruña	Malpica	Muxía	Lira	Arousa	Baiona	A Guarda	Lisboa	Cádiz	Telde
Galway															
Ushant	0														
Bilbao	0.3526	0.4037													
Ribadesella	0	0	0.9967												
Cedeira	0	0.0112	0.3354	0											
A Coruña	0.0419	0.0750	0.0780	0.0065	0.0139										
Malpica	0.0808	0.1215	0.1361	0.0249	0.0524	0									
Muxía	0.0247	0.0714	0.1491	0	0.0078	0	0								
Lira	0.0146	0.0360	0.2442	0	0.0149	0.0107	0.0101	0							
Arousa	0.0349	0.0556	0.3297	0.0108	0.0106	0.0537	0.0593	0.0597	0.0490						
Baiona	0.0547	0.0977	0.1392	0.0088	0.0236	0	0	0	0.0009	0.0350					
A Guarda	0	0.0215	0.4427	0.0119	0	0.0737	0.1157	0.0872	0.0620	0.0374	0.0969	0			
Lisboa	0	0.0051	0.2444	0	0	0.0326	0.0689	0.0155	0.0312	0.0364	0.0441	0			
Cádiz	0.1175	0.1337	0.4226	0.0730	0.1013	0.1128	0.1121	0.1594	0.1165	0.0205	0.0955	0.1029	0.0886		
Telde	0.1622	0.2026	0.5654	0.1163	0.1161	0.1284	0.1592	0.2798	0.1897	0.0422	0.1387	0.0891	0.0403	0.0340	

Table A3. Pairwise differentiation indexes between populations based on microsatellite data. F_{ST} values from the corrected dataset applying the ENA method are below the diagonal and R_{ST} from the original dataset, above the diagonal. There are no significance estimates for the first index and none of the R_{ST} values are significant after FDR procedure

	Galway	Ushant	Bilbao	Ribadesella	Cedeira	A Coruña	Malpica	Muxía	Lira	Arousa	Baiona	A Guarda	Lisboa	Cádiz	Telde
Galway		0.0420	0.0788	0.0589	0.0358	0.0135	0.0092	0.0603	0.0253	0.0001	0.0261	0.0431	0.0396	0.0423	0.0387
Ushant	0.0075		0	0	0	0	0	0	0	0.0011	0.0079	0	0.0052	0.0013	0.0365
Bilbao	0.0026	0.0016		0	0	0	0	0	0	0	0	0	0	0.0082	0.0103
Ribadesella	0.0085	0.0071	0		0	0	0	0	0	0.0053	0	0	0	0.0444	0.0078
Cedeira	0.0188	0.0079	0	0		0	0	0	0	0	0	0	0	0	0
A Coruña	0.0172	0.0090	0	0.0033	0.0072		0	0.0056	0	0	0	0	0	0.0336	0.0097
Malpica	0.0291	0.0097	0.0050	0.0115	0.0078	0.0021		0	0	0	0	0	0	0	0.0278
Muxía	0.0176	0	0	0.0008	0	0.0001	0		0	0.0082	0.0130	0	0	0	0.0314
Lira	0.0167	0.0069	0	0	0	0	0	0		0	0	0	0	0.0217	0.0049
Arousa	0.0260	0.0066	0.0024	0.0025	0.0174	0.0090	0.0140	0	0.0055	0	0	0	0.0005	0.0225	0.0075
Baiona	0.0298	0.0220	0.0099	0.0018	0.0006	0.0094	0.0087	0	0.0081	0.0223	0	0	0.0212	0.0449	0
A Guarda	0.0265	0.0161	0.0051	0	0.0007	0.0117	0.0104	0	0.0116	0.0163	0	0	0	0.0012	0.0247
Lisboa	0.0240	0.0261	0	0	0.0032	0.0118	0.0202	0	0.0083	0.0100	0.0040	0.0007	0	0	0
Cádiz	0.0284	0.0128	0.0091	0.0082	0.0114	0.0095	0.0060	0	0.0043	0.0038	0.0106	0.0160	0.0066	0	0.0613
Telde	0.0525	0.0404	0.0114	0.0157	0.0251	0.0373	0.0207	0	0.0247	0.0336	0.0086	0.0091	0.0071	0.0196	0

Table A4. Pairwise chord distances between populations based on microsatellite data. Distance values from the original dataset are below the diagonal and values from the corrected dataset applying the INA method, above the diagonal

	Galway	Ushant	Bilbao	Ribadesella	Cedeira	A Coruña	Malpica	Muxía	Lira	Arousa	Baiona	A Guarda	Lisboa	Cádiz	Telde
Galway		0.0280	0.0660	0.0310	0.0470	0.0250	0.0350	0.0410	0.0330	0.0340	0.0340	0.0350	0.0350	0.0340	0.0760
Ushant	0.0300		0.0520	0.0270	0.0340	0.0270	0.0300	0.0340	0.0260	0.0220	0.0350	0.0290	0.0320	0.0300	0.0790
Bilbao	0.0670	0.0460		0.0640	0.0790	0.0590	0.0660	0.0690	0.0680	0.0610	0.0610	0.0640	0.0630	0.0720	0.1000
Ribadesella	0.0290	0.0320	0.0660		0.0390	0.0270	0.0320	0.0370	0.0280	0.0250	0.0280	0.0310	0.0270	0.0290	0.0770
Cedeira	0.0490	0.0420	0.0830	0.0460		0.0390	0.0450	0.0370	0.0340	0.0400	0.0450	0.0380	0.0380	0.0410	0.0860
A Coruña	0.0270	0.0280	0.0560	0.0310	0.0450		0.0270	0.0320	0.0200	0.0240	0.0320	0.0230	0.0300	0.0290	0.0810
Malpica	0.0370	0.0320	0.0640	0.0370	0.0490	0.0300		0.0390	0.0230	0.0250	0.0360	0.0280	0.0330	0.0260	0.0710
Muxía	0.0400	0.0360	0.0680	0.0380	0.0450	0.0350	0.0410		0.0390	0.0390	0.0430	0.0360	0.0370	0.0390	0.0760
Lira	0.0270	0.0270	0.0640	0.0280	0.0350	0.0220	0.0260	0.0390		0.0240	0.0310	0.0290	0.0290	0.0250	0.0790
Arousa	0.0320	0.0220	0.0540	0.0290	0.0440	0.0250	0.0290	0.0400	0.0250		0.0340	0.0270	0.0320	0.0270	0.0790
Baiona	0.0320	0.0370	0.0690	0.0310	0.0460	0.0330	0.0360	0.0440	0.0270	0.0310		0.0390	0.0260	0.0300	0.0700
A Guarda	0.0330	0.0330	0.0620	0.0390	0.0430	0.0280	0.0340	0.0420	0.0320	0.0340	0.0380		0.0290	0.0350	0.0740
Lisboa	0.0330	0.0410	0.0670	0.0380	0.0440	0.0320	0.0360	0.0430	0.0310	0.0370	0.0300	0.0280		0.0310	0.0710
Cádiz	0.0320	0.0360	0.0700	0.0350	0.0490	0.0330	0.0290	0.0450	0.0250	0.0310	0.0300	0.0420	0.0380		0.0760
Telde	0.0840	0.0900	0.1090	0.0850	0.0970	0.0870	0.0740	0.0850	0.0780	0.0840	0.0830	0.0790	0.0830	0.0810	0