

Larval retention and homing behaviour shape the genetic structure of the Bullet tuna (*Auxis rochei*) in the Mediterranean Sea.

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Supplementary Tables and Figures

Supplementary Table S1 Microsatellites descriptions and multiplex assignment. Total number of alleles per locus (k), annealing temperature (T^a). Table modified from Catanese et al., 2007 [22].

Locus	Repeat motif	Primer sequence (5'-3')	k	Allele size range (bp)	T^a	Multiplex
Aro1-3	(TG) ₁₅ (TCAC)(TG) ₄	F: PET-GCTTGTGCTTTGATTTACACGACCAG R: ACAGACTTATTATTGTGTCAGCGGTGATTT	16	135-166	60	2
Aro1-10	(CA) ₄ (CTCA) ₃ (CA) ₂₃	F: PET-CCCACCCACCCAGCCCTTCC R: TCATCCCTTGTTACCTGCGTTTCTATTTTC	36	168-272	60	2
Aro1-59	(CA) ₁₂	F: PET-CTACGTGCATGTCAGGTTGGATTCA R: TTGTCTAAGTTTTTCTCCTGTGCTTTTATTGGTC	34	112-182	55	1
Aro2-15	(CA) ₁₂ (C)(CA) ₈ (CTA)(CA) ₄	F: FAM-CCATTTTTTCTCAAACCAAACCTGCCATT R: GTGGGTGTGTTGTAAACTCTGAGCAGGTGT	40	135-217	58	2
Aro2-38	(TTCTC) ₉ (CTCTC)(TTCTC) ₉	F: VIC-CTGACCAACCAGTGCGAGGTGA R: GCAGTAATACATTAAAGGAATAAATCAGACCACA	25	131-276	58	1
Aro2-40	(TC) ₂₂ (TT)(TC) ₇ (AC) ₅	F: NED-TCGCAGTGCTAAAAAACATCCTTGTAAGTG R: CATTCTCTTGAAGGCTGGGTTCTCTTTCT	29	135-205	58	1
Aro3-37	(TTCTC) ₂₀	F: FAM-CTTTATATTGGCAAGAGTATTGTTCACTCATTT R: TTGAGCCCACATGGTTGATAGCAGGAT	23	92-202	55	1
Aro4-13	(CT) ₄ (CC)(CT) ₁₆	F: NED-AATCCATCCATCACACACAGCCAGA R: TTAAGTGTATGTGTTTGAGAGACAGAGCGAGA	38	107-191	65	2

Supplementary Table S2 Results for the MICROCHECKER for the eight microsatellite loci. Nulls alleles frequency estimation based on the method from Oosterhout implemented in MICROCHECKER. In bold, statistical significant frequencies (*p<0.05; **p<0.01; ***p<0.001)

	Aro 3-37	Aro 2-38	Aro 2-40	Aro 1-59	Aro 2-15	Aro 4-13	Aro 1-3	Aro 1-10
Olhão	-	(0.252) ***	-	-	-	(0.048)	(0.159) **	-
Strait of Gibraltar	-	(0.197) ***	-	-	-	-	(0.205) **	-
Málaga	-	(0.359) ***	-	-	-	(0,083)	-	(0.095)
Cartagena	-	(0.279) ***	-	-	-	(0.058)	-	(0.088)
Valencia	-	(0.283) ***	-	-	-	-	-	-
Tarragona	-	(0.394) ***	-	-	-	(0.088)	(0.064)	(0.039)
Alger	-	(0.371) ***	-	-	(0.134) **	(0.209) ***	-	-
Mahdia	-	(0.319) ***	-	-	-	(0.263) ***	-	(0.140) *

Supplementary Table S3 F_{ST} pairwise comparisons for the 7 microsatellites loci. Lower diagonal results from FreeNA not using ENA. Upper diagonal F_{ST} using ENA (from FreeNA)

	Olhão	Strait of Gibraltar	Málaga	Cartagena	Valencia	Tarragona	Alger	Mahdia
Olhão		0.003	0.001	0.002	0.003	0.004	0.012	0.011
Strait of Gibraltar	0.002		0.003	0.000	0.005	0.000	0.017	0.012
Málaga	0.002	0.002		0.001	0.001	0.003	0.014	0.015
Cartagena	0.003	0.000	0.000		0.000	0.001	0.015	0.007
Valencia	0.002	0.004	0.000	0.000		0.006	0.017	0.013
Tarragona	0.004	0.000	0.002	0.001	0.005		0.017	0.017
Alger	0.015	0.018	0.016	0.017	0.018	0.019		0.010
Mahdia	0.015	0.014	0.019	0.011	0.016	0.021	0.011	

Supplementary Table S4 Locus by locus AMOVA. In bold loci with statistically significant p-values in the F_{ST}

Locus	Among Populations				Within Populations				Fixation index	
	<i>SSD</i>	d.f.	<i>Va</i>	% variation	<i>SSD</i>	d.f.	<i>Vb</i>	% variation	F_{ST}	<i>P-value</i>
Aro3-37	3.61384	7	0.00082	0.17767	250.67783	544	0.4608	99.82233	0.002	0.2356
Aro2-40	3.04366	7	0.00065	0.1662	212.60308	544	0.39081	99.8338	0.002	0.3040
Aro1-59	6.30476	7	0.00648	1.38202	251.57567	544	0.46246	98.61798	0.014	0.0000
Aro2-15	9.84928	7	0.01407	2.99563	247.85905	544	0.45562	97.00437	0.030	0.0000
Aro4-13	8.32219	7	0.01056	2.1753	258.32636	544	0.47486	97.8247	0.022	0.0000
Aro1-3	3.90206	7	0.00204	0.48268	228.35337	544	0.41977	99.51732	0.005	0.2327
Aro1-10	9.3007	7	0.01282	2.70359	251.06343	544	0.46151	97.29641	0.027	0.0000