

Variability in connectivity indicated by chaotic genetic patchiness within and among populations of a marine fish

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Supplement. Additional data

Table S1. Summary statistics for 52 adult and juvenile populations of *Stegastes partitus* collected from 10 sites on the MBRS. Number of individuals (N), Number of alleles (Na), observed heterozygosity (H_O) and expected heterozygosity (H_E). Significant departures from Hardy-Weinberg equilibrium are indicated shaded and bold, those that are significant after sequential Bonferroni correction are shaded, bold and underlined.

Population	Locus	Locus								
		GATA40	AAT40	AAC44	AAC33	TG16	GGA7	TG53	TG13	GT10
Adult BN 2005	N	83	78	82	85	83	83	77	82	83
	Na	29	15	15	16	29	6	36	8	19
	Ho	0.831	0.885	0.415	0.647	0.867	0.651	0.857	0.695	0.795
	He	0.951	0.896	0.667	0.894	0.939	0.573	0.938	0.755	0.891
Adult BN 2006	N	62	69	72	67	63	65	67	65	66
	Na	28	16	9	15	25	5	32	7	13
	Ho	0.774	0.913	0.319	0.776	0.778	0.615	0.851	0.600	0.818
	He	0.952	0.885	0.366	0.885	0.941	0.602	0.945	0.770	0.889
Adult BN 2007	N	84	81	83	87	86	88	89	86	74
	Na	32	22	11	15	30	6	39	7	17
	Ho	0.869	0.864	0.349	0.770	0.860	0.602	0.955	0.651	0.811
	He	0.956	0.877	0.615	0.871	0.947	0.642	0.936	0.745	0.896
Adult BN 2008	N	70	81	75	83	84	69	76	74	66
	Na	29	15	11	15	32	8	41	9	17
	Ho	0.814	0.827	0.280	0.771	0.929	0.565	0.921	0.662	0.848
	He	0.948	0.882	0.437	0.885	0.946	0.693	0.951	0.737	0.889
Adult BS 2005	N	85	87	76	82	78	83	87	85	85
	Na	30	15	12	25	33	6	32	28	18
	Ho	0.847	0.874	0.289	0.817	0.885	0.542	0.874	0.741	0.835
	He	0.952	0.886	0.350	0.935	0.953	0.597	0.930	0.804	0.882

Adult BS 2006	N	69	71	85	87	81	80	87	87	84
	Na	30	18	10	14	28	7	31	9	29
	Ho	0.812	0.887	0.294	0.793	0.877	0.625	0.874	0.770	0.774
	He	0.950	0.898	0.298	0.876	0.944	0.593	0.934	0.708	0.895
Adult BS 2007	N	89	73	83	88	69	70	88	83	89
	Na	34	18	12	17	28	6	48	9	17
	Ho	0.843	0.918	0.337	0.830	0.870	0.529	0.739	0.578	0.843
	He	0.961	0.882	0.315	0.897	0.942	0.692	0.955	0.719	0.876
Adult BS 2008	N	86	81	85	80	83	91	87	86	88
	Na	30	16	10	16	31	6	35	9	18
	Ho	0.907	0.827	0.200	0.650	0.880	0.560	0.920	0.616	0.875
	He	0.957	0.894	0.287	0.873	0.952	0.677	0.939	0.780	0.900
Adult N 2005	N	90	90	89	90	88	90	87	83	90
	Na	37	16	11	16	28	6	31	6	17
	Ho	0.878	0.856	0.292	0.733	0.852	0.578	0.828	0.675	0.844
	He	0.957	0.870	0.296	0.892	0.942	0.587	0.921	0.700	0.888
Adult N 2006	N	67	74	70	74	74	60	71	75	61
	Na	30	16	10	16	28	5	29	9	16
	Ho	0.701	0.851	0.357	0.743	0.811	0.550	0.789	0.627	0.869
	He	0.949	0.899	0.376	0.873	0.944	0.614	0.930	0.724	0.895
Adult N 2007	N	85	54	79	85	64	85	85	67	78
	Na	33	16	10	17	24	4	41	10	15
	Ho	0.941	0.944	0.304	0.776	1.000	0.647	0.941	0.746	0.808
	He	0.954	0.904	0.597	0.874	0.909	0.584	0.933	0.803	0.896
Adult N 2008	N	52	83	79	74	73	74	77	72	75
	Na	33	17	11	15	32	6	35	8	18
	Ho	0.942	0.880	0.316	0.865	0.918	0.527	0.961	0.625	0.840
	He	0.950	0.889	0.456	0.889	0.944	0.695	0.933	0.730	0.893
Adult S 2005	N	84	84	81	86	86	79	87	85	75
	Na	27	17	10	17	29	6	36	8	20
	Ho	0.714	0.857	0.296	0.686	0.919	0.481	0.862	0.635	0.813
	He	0.948	0.890	0.291	0.867	0.943	0.606	0.938	0.756	0.883
Adult S 2006	N	87	87	90	90	89	90	87	90	81
	Na	29	17	11	18	34	4	40	9	18
	Ho	0.851	0.828	0.344	0.800	0.865	0.567	0.908	0.700	0.827
	He	0.949	0.895	0.372	0.883	0.958	0.586	0.941	0.730	0.889
Adult S 2007	N	84	56	78	84	86	78	76	70	71
	Na	34	16	11	18	33	8	40	7	16
	Ho	0.869	0.929	0.474	0.798	0.849	0.551	0.882	0.600	0.803
	He	0.958	0.867	0.437	0.897	0.949	0.620	0.932	0.726	0.880
Adult S 2008	N	90	88	92	92	75	79	78	80	69
	Na	38	18	12	16	29	6	36	8	17
	Ho	0.956	0.932	0.391	0.804	0.933	0.570	0.949	0.763	0.913
	He	0.954	0.894	0.389	0.871	0.945	0.649	0.940	0.774	0.900
Adult E 2005	N	92	90	89	90	76	88	92	91	76
	Na	33	16	12	19	26	5	36	8	19
	Ho	0.891	0.889	0.281	0.822	0.803	0.489	0.913	0.615	0.829
	He	0.957	0.886	0.313	0.897	0.936	0.556	0.930	0.737	0.880
Adult E 2006	N	79	79	88	89	81	74	90	90	82
	Na	27	15	12	18	32	6	39	9	14
	Ho	0.772	0.861	0.352	0.865	0.889	0.432	0.900	0.622	0.854
	He	0.944	0.899	0.451	0.891	0.953	0.621	0.937	0.719	0.891

Adult E 2007	N	83	63	76	81	78	77	74	76	76
	Na	32	18	11	18	28	6	28	8	16
	Ho	0.904	0.857	0.408	0.778	0.872	0.545	0.851	0.592	0.789
	He	0.953	0.883	0.418	0.875	0.945	0.650	0.923	0.717	0.875
Adult E 2008	N	89	93	74	92	91	82	83	81	88
	Na	33	17	11	19	34	5	34	9	18
	Ho	0.899	0.903	0.378	0.815	0.956	0.488	0.916	0.716	0.864
	He	0.954	0.870	0.369	0.896	0.951	0.610	0.938	0.759	0.892
Adult W 2005	N	92	92	91	91	88	84	89	90	93
	Na	35	16	11	16	33	8	34	8	18
	Ho	0.902	0.902	0.176	0.692	0.841	0.488	0.910	0.500	0.785
	He	0.957	0.901	0.326	0.893	0.947	0.574	0.934	0.777	0.899
Adult W 2006	N	71	76	80	81	79	72	81	72	79
	Na	27	17	10	15	29	6	36	5	16
	Ho	0.859	0.842	0.350	0.704	0.848	0.583	0.914	0.556	0.861
	He	0.952	0.870	0.372	0.879	0.943	0.576	0.940	0.692	0.880
Adult W 2007	N	88	77	78	87	86	79	90	79	54
	Na	37	16	12	17	32	7	34	8	14
	Ho	0.920	0.831	0.474	0.874	0.849	0.494	0.900	0.646	0.815
	He	0.959	0.878	0.532	0.880	0.948	0.698	0.930	0.736	0.870
Adult W 2008	N	66	82	75	87	77	85	69	70	69
	Na	27	17	13	15	27	5	32	9	17
	Ho	0.803	0.878	0.360	0.782	0.935	0.576	0.855	0.700	0.841
	He	0.945	0.896	0.542	0.888	0.938	0.632	0.940	0.800	0.886
Adult M 2005	N	78	83	73	84	83	83	83	82	72
	Na	25	18	10	15	28	10	31	7	14
	Ho	0.731	0.904	0.370	0.798	0.819	0.590	0.880	0.585	0.736
	He	0.939	0.899	0.413	0.867	0.943	0.709	0.934	0.652	0.877
Adult M 2006	N	87	91	85	93	79	89	93	78	93
	Na	32	17	11	16	30	5	33	8	18
	Ho	0.828	0.835	0.353	0.774	0.873	0.494	0.849	0.679	0.828
	He	0.956	0.900	0.390	0.865	0.950	0.554	0.929	0.773	0.857
Adult M 2007	N	94	51	95	94	90	77	94	93	90
	Na	33	14	12	18	29	7	38	9	19
	Ho	0.926	0.882	0.358	0.755	0.944	0.506	0.947	0.634	0.867
	He	0.951	0.885	0.461	0.893	0.938	0.601	0.927	0.739	0.889
Adult L 2008	N	84	85	63	84	76	70	89	84	89
	Na	32	18	9	13	27	6	37	10	20
	Ho	0.905	0.894	0.286	0.833	0.829	0.429	0.933	0.619	0.809
	He	0.955	0.906	0.536	0.879	0.945	0.671	0.940	0.796	0.896
Adult G 2008	N	61	74	79	80	70	65	73	78	74
	Na	28	17	12	14	29	4	32	9	15
	Ho	0.738	0.946	0.329	0.688	0.871	0.646	0.932	0.782	0.851
	He	0.950	0.904	0.329	0.876	0.941	0.598	0.936	0.765	0.886

Juvenile BN 2005	N	46	50	52	46	51	46	40	50	46
	Na	26	13	9	13	27	5	25	8	16
	Ho	0.826	0.82	0.385	0.674	0.961	0.695	0.85	0.8	0.847
	He	0.950	0.889	0.424	0.888	0.944	0.674	0.918	0.745	0.883
Juvenile BN 2006	N	44	44	36	38	44	41	35	41	36
	Na	28	17	6	12	28	4	20	7	10
	Ho	0.818	0.864	0.167	0.842	0.818	0.561	0.571	0.683	0.694
	He	0.947	0.898	0.158	0.869	0.944	0.622	0.910	0.745	0.862
Juvenile BN 2007	N	89	78	77	93	94	87	94	91	90
	Na	34.000	18.000	12.000	16.000	34.000	6.000	37.000	8.000	18.000
	Ho	0.910	0.872	0.364	0.849	0.904	0.517	0.915	0.626	0.822
	He	0.956	0.893	0.406	0.888	0.947	0.625	0.928	0.750	0.889
Juvenile BN 2008	N	78	76	78	75	73	66	58	38	58
	Na	34.000	18.000	15.000	17.000	27.000	7.000	27.000	9.000	16.000
	Ho	0.949	0.882	0.346	0.787	0.904	0.652	0.845	0.526	0.845
	He	0.956	0.896	0.567	0.878	0.945	0.631	0.927	0.744	0.874
Juvenile BS 2005	N	40	40	40	35	40	39	39	25	32
	Na	26.000	15.000	10.000	14.000	27.000	4.000	26.000	5.000	15.000
	Ho	0.775	0.875	0.375	0.657	0.850	0.641	0.872	0.680	0.906
	He	0.950	0.914	0.426	0.844	0.943	0.543	0.919	0.668	0.865
Juvenile BS 2006	N	42	46	47	47	47	46	47	47	36
	Na	30.000	18.000	10.000	13.000	24.000	6.000	29.000	7.000	13.000
	Ho	0.857	0.913	0.319	0.830	0.851	0.457	0.894	0.638	0.722
	He	0.947	0.904	0.324	0.880	0.935	0.574	0.930	0.769	0.867
Juvenile BS 2007	N	78	72	67	81	82	78	82	81	79
	Na	32.000	16.000	11.000	17.000	30.000	6.000	35.000	9.000	20.000
	Ho	0.897	0.875	0.478	0.778	0.963	0.577	0.939	0.568	0.861
	He	0.954	0.902	0.559	0.874	0.949	0.644	0.923	0.742	0.896
Juvenile BS 2008	N	53	55	57	59	58	59	57	36	35
	Na	29.000	17.000	9.000	18.000	31.000	6.000	33.000	7.000	12.000
	Ho	0.943	0.909	0.351	0.983	0.983	0.610	0.912	0.778	0.829
	He	0.954	0.908	0.343	0.897	0.952	0.627	0.939	0.762	0.835
Juvenile N 2005	N	44	44	44	42	39	43	44	28	37
	Na	24.000	16.000	8.000	16.000	24.000	4.000	33.000	6.000	12.000
	Ho	0.886	0.864	0.205	0.667	0.795	0.721	0.955	0.643	0.892
	He	0.943	0.879	0.434	0.876	0.939	0.616	0.932	0.721	0.879
Juvenile N 2006	N	35	48	48	47	48	47	47	46	42
	Na	23.000	17.000	8.000	14.000	28.000	5.000	33.000	7.000	13.000
	Ho	0.629	0.771	0.417	0.915	0.917	0.574	0.957	0.717	0.833
	He	0.938	0.879	0.390	0.876	0.943	0.576	0.931	0.715	0.877
Juvenile N 2007	N	84	92	77	92	88	93	93	90	91
	Na	32.000	17.000	10.000	15.000	32.000	6.000	42.000	8.000	17.000
	Ho	0.929	0.935	0.338	0.761	0.920	0.559	0.946	0.633	0.890
	He	0.956	0.889	0.326	0.850	0.949	0.655	0.939	0.728	0.889
Juvenile N 2008	N	35	62	47	58	55	63	61	55	51
	Na	25.000	17.000	10.000	14.000	27.000	5.000	32.000	7.000	17.000
	Ho	0.829	0.952	0.319	0.759	0.818	0.571	0.951	0.691	0.863
	He	0.939	0.889	0.435	0.877	0.939	0.686	0.937	0.721	0.893
Juvenile S 2005	N	49	50	50	47	48	48	50	45	42
	Na	24.000	16.000	10.000	14.000	26.000	5.000	31.000	7.000	14.000
	Ho	0.918	0.840	0.320	0.745	0.854	0.625	0.920	0.600	0.738
	He	0.942	0.893	0.598	0.879	0.946	0.596	0.925	0.739	0.887

Juvenile S 2006	N	46	46	44	42	46	37	46	44	44
	Na	26.000	17.000	8.000	10.000	27.000	5.000	27.000	7.000	12.000
	Ho	0.804	0.761	0.295	0.738	0.891	0.486	0.891	0.614	0.659
	He	0.940	0.881	0.376	0.842	0.942	0.604	0.931	0.763	0.865
Juvenile S 2007	N	76	78	85	89	92	80	91	89	89
	Na	32.000	15.000	12.000	15.000	29.000	7.000	38.000	9.000	18.000
	Ho	0.895	0.859	0.329	0.787	0.913	0.538	0.857	0.596	0.865
	He	0.956	0.885	0.480	0.880	0.944	0.681	0.922	0.754	0.885
Juvenile S 2008	N	57	51	58	58	59	49	56	36	48
	Na	29.000	15.000	10.000	14.000	28.000	5.000	33.000	7.000	17.000
	Ho	0.877	0.882	0.362	0.707	0.949	0.531	0.875	0.583	0.792
	He	0.952	0.887	0.378	0.872	0.948	0.565	0.925	0.727	0.897
Juvenile E 2005	N	46	45	45	46	39	47	43	46	47
	Na	25.000	15.000	9.000	13.000	22.000	5.000	23.000	7.000	17.000
	Ho	0.848	0.978	0.333	0.761	0.897	0.447	0.791	0.522	0.894
	He	0.942	0.899	0.435	0.862	0.929	0.636	0.901	0.757	0.885
Juvenile E 2006	N	40	42	41	41	38	43	44	38	38
	Na	28.000	16.000	10.000	15.000	22.000	5.000	30.000	9.000	11.000
	Ho	0.900	0.857	0.366	0.732	0.789	0.605	0.818	0.789	0.921
	He	0.944	0.894	0.436	0.877	0.929	0.616	0.932	0.727	0.872
Juvenile E 2007	N	86	91	82	92	88	93	92	91	89
	Na	30.000	17.000	10.000	18.000	30.000	6.000	36.000	11.000	14.000
	Ho	0.744	0.846	0.293	0.783	0.886	0.591	0.902	0.692	0.775
	He	0.949	0.878	0.564	0.889	0.952	0.638	0.931	0.755	0.871
Juvenile E 2008	N	43	43	47	36	38	42	45	28	43
	Na	26.000	16.000	10.000	17.000	24.000	8.000	30.000	5.000	16.000
	Ho	0.907	0.907	0.426	0.917	0.947	0.571	0.978	0.679	0.814
	He	0.949	0.899	0.435	0.893	0.939	0.724	0.942	0.716	0.894
Juvenile W 2005	N	45	46	48	48	48	46	48	45	48
	Na	31.000	15.000	9.000	16.000	28.000	5.000	32.000	5.000	16.000
	Ho	0.956	0.935	0.292	0.813	0.833	0.196	0.875	0.578	0.979
	He	0.956	0.890	0.593	0.886	0.945	0.471	0.932	0.666	0.878
Juvenile W 2006	N	48	48	48	39	47	37	41	47	39
	Na	31.000	16.000	8.000	13.000	26.000	5.000	18.000	7.000	14.000
	Ho	0.896	0.813	0.271	0.718	0.809	0.649	0.732	0.574	0.821
	He	0.947	0.869	0.317	0.865	0.947	0.617	0.877	0.713	0.879
Juvenile W 2007	N	86	83	89	87	89	78	70	76	88
	Na	30.000	15.000	12.000	18.000	28.000	5.000	28.000	13.000	18.000
	Ho	0.860	0.940	0.326	0.782	0.787	0.538	0.929	0.276	0.580
	He	0.950	0.896	0.725	0.886	0.943	0.649	0.925	0.829	0.892
Juvenile W 2008	N	53	61	60	62	40	48	60	57	61
	Na	28.000	15.000	8.000	18.000	27.000	5.000	29.000	6.000	14.000
	Ho	0.943	0.951	0.283	0.839	0.850	0.542	0.983	0.526	0.852
	He	0.946	0.895	0.287	0.897	0.941	0.586	0.941	0.748	0.891
Juvenile M 2005	N	41	41	38	40	39	41	41	36	41
	Na	30.000	13.000	10.000	15.000	27.000	5.000	24.000	8.000	14.000
	Ho	0.951	0.854	0.395	0.750	0.846	0.537	0.854	0.667	0.902
	He	0.955	0.885	0.564	0.875	0.944	0.604	0.916	0.689	0.886
Juvenile M 2006	N	45	42	48	48	48	48	42	47	36
	Na	31.000	16.000	9.000	14.000	32.000	5.000	28.000	6.000	11.000
	Ho	0.844	0.762	0.354	0.708	0.917	0.458	0.762	0.745	0.722
	He	0.955	0.887	0.396	0.874	0.946	0.566	0.916	0.699	0.877

Juvenile M 2007	N	96	65	94	93	91	78	95	96	89
	Na	34.000	15.000	13.000	16.000	34.000	6.000	35.000	10.000	15.000
	Ho	0.906	0.862	0.362	0.839	0.923	0.615	0.874	0.740	0.798
	He	0.955	0.883	0.487	0.878	0.950	0.639	0.918	0.763	0.889
Juvenile L 2008	N	64	72	71	69	61	51	70	39	51
	Na	29.000	15.000	10.000	13.000	32.000	5.000	37.000	8.000	16.000
	Ho	0.891	0.917	0.338	0.768	0.820	0.627	0.943	0.718	0.902
	He	0.949	0.888	0.390	0.867	0.944	0.667	0.945	0.746	0.897
Juvenile G 2008	N	47	34	28	50	36	50	42	33	34
	Na	27.000	12.000	5.000	14.000	24.000	4.000	30.000	8.000	14.000
	Ho	0.851	0.941	0.179	0.780	0.972	0.600	0.929	0.788	0.941
	He	0.946	0.867	0.168	0.880	0.945	0.631	0.940	0.771	0.879

Table S2. Summary of linkage disequilibrium tests for 9 microsatellite markers at adult and juvenile populations of *Stegastes partitus* over 4 years (N = 58 populations, 2088 pair-wise comparisons total). Values indicate the number of populations in which significant linkage disequilibrium was detected using exact tests.

Locus	SpGATA₄₀	SpAAT₄₀	SpAAC₄₄	SpAAC₃₃	SpTG₁₆	SpGGA₇	SpTG₅₃	SpTG₁₃	SpGT₁₀
SpGATA₄₀	-								
SpAAT₄₀	0	-							
SpAAC₄₄	0	2	-						
SpAAC₃₃	0	0	3	-					
SpTG₁₆	0	0	4	0	-				
SpGGA₇	0	0	7	1	1	-			
SpTG₅₃	0	1	2	0	0	8	-		
SpTG₁₃	2	1	3	0	2	3	2	-	
SpGT₁₀	1	1	2	2	1	2	3	1	-