

The following supplement accompanies the article

## Settling-depth vs. genotype and size vs. genotype correlations at the *Pan I* locus in 0-group Atlantic cod *Gadus morhua*

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**Supplement.** Sample details and basic genetic data for the fish analyzed.

Table S1. *Gadus morhua*. Details of the different samples. Pos/Loc: exact position or locality name. BT: bottom trawl, PT: pelagic trawl, SS: shore seine. AA, AB, and BB are numbers of the different *Pan I* genotypes. A freq: frequency of the *Pan I*<sup>A</sup> allele.  $H_o$  and  $H_e$ : observed and expected frequency of heterozygotes.  $F_{IS}$  significant at \* $p < 0.05$ , \*\* $p < 0.01$ , or \*\*\* $p < 0.001$ . S&F: corresponding sample number in Sarvas & Fevolden (2005), na: not applicable, <sup>ms</sup>: sample also analyzed for microsatellites. Dates presented as dd.mm.yyyy

Area	Position/Location	Date	Gear	Depth (m)	AA	AB	BB	A freq	$H_o$	$H_e$	$F_{IS}$	S&F
Barents Sea	70° 49.4' N, 28° 27.0' E	15.09.1995	BT	150	0	4	25	0.07	0.14	0.13	-0.057	–
Ullsfjord	Eidstranddjupet	15.11.1995	BT	270	0	3	20	0.07	0.13	0.12	-0.048	–
Arnøya	NV of the island	15.11.1995	BT	440	0	5	32	0.07	0.14	0.13	-0.059	–
Varanger <sup>ms</sup>	70° 12.6' N, 30° 49.1' E	31.08.1996	BT	100	4	5	66	0.09	0.07	0.16	0.583***	–
Barents Sea	70° 33.0' N, 30° 53.3' E	12.09.1996	BT	94	1	5	26	0.11	0.16	0.19	0.213	–
Barents Sea	na	15.09.1996	BT	na	0	4	25	0.07	0.14	0.13	-0.057	–

Finnmark	71° 14' N, 27° 11' E	13.09.1996	BT	277	1	3	9	0.19	0.23	0.31	0.250	–
Varanger, Inner	70° 07' N, 28° 19' E	12.09.1996	BT	88	0	2	4	0.17	0.33	0.28	–0.111	–
N Sørøya	70° 41.7' N, 22° 40.8' E	26.10.2000	BT	190	0	2	6	0.13	0.25	0.22	–0.077	–
Sørfjord	Njosken	20.09.2001	BT	124	0	3	7	0.15	0.30	0.26	–0.125	–
Svalbard	78° 13' N, 14° 39' E	12.12.2001	BT	210	5	26	54	0.21	0.31	0.33	0.090	–
Barents Sea	70° 42.9' N, 25° 57.1' E	01.09.1995	PT	200	1	7	20	0.16	0.25	0.27	0.091	76
Laksefjord <sup>ms</sup>	Tømmervik	02.09.1996	PT	60–20	9	11	52	0.20	0.15	0.32	0.530***	–
Varanger <sup>ms</sup>	Ekkerøy	01.09.1996	PT	60–20	8	37	52	0.27	0.38	0.40	0.045	–
Varanger, middle	69° 58' N, 30° 28' E	31.09.1996	PT	75	4	9	4	0.50	0.53	0.50	–0.111	–
Barents Sea, Magerøy	71° 18' N, 21° 50' E	15.09.1997	PT	60	5	17	24	0.29	0.37	0.41	0.120	83
Barents Sea, Tanafjord	70° 59' N, 29° 13' E	15.09.1997	PT	180	3	18	31	0.23	0.35	0.36	0.035	82
Barents Sea	70° 31' N, 31° 18' E	21.08.1997	PT	274	6	29	59	0.22	0.31	0.34	0.101	81
Lyngsfjord	69° 34' N, 20° 20' E	30.08.1997	PT	45–62	0	11	44	0.10	0.20	0.18	0.102	–
Porsanger, Austerbotn	70° 07.9' N, 25° 12.4' E	2.09.1997	PT	60–20	7	24	76	0.18	0.22	0.29	0.237*	–
Porsanger, outer	71° 09' N, 26° 19' E	24.08.1997	PT	59–60	2	15	12	0.33	0.52	0.44	–0.157	–
Tromsøflaket	70° 36' N, 20° 48' E	15.09.1997	PT	53	11	8	9	0.54	0.29	0.50	0.440*	84
Porsanger, Austerbotn	70° 06.8' N, 25° 09.9' E	10.09.1998	PT	25	2	3		0.05	0.04	0.10	0.533**	–
Varanger	69° 59' N, 30° 49' E	21.08.1997	PT	10–0	5	18	21	0.32	0.41	0.43	0.069	–
Porsanger, Austerbotn	70° 07.6' N, 25° 12.5' E	07.09.1999	PT	20	16	21	13	0.53	0.42	0.50	0.169	–
Porsanger, Austerbotn <sup>ms</sup>	70° 07.5' N, 25° 11.7' E	04.10.2000	PT	60–20	2	10	7	0.37	0.53	0.47	–0.104	–
Sørfjord	Njosken	20.09.2001	PT	60–20	0	2	5	0.14	0.29	0.24	–0.091	–
Barents Sea	71° 55' N, 27° 00' E	15.08.2001	PT	12–0	1	2	28	0.06	0.06	0.12	0.478	78
Barents Sea	71° 29' N, 25° 05' E	15.08.2001	PT	12–0	0	9	18	0.17	0.33	0.28	–0.182	79
Barents Sea	71° 18' N, 23° 00' E	15.08.2001	PT	12–0	5	12	21	0.29	0.32	0.41	0.088	80
Barents Sea, West	70° 50' N, 19° 12' E	15.08.2001	PT	12–0	47	45	31	0.57	0.37	0.49	0.260**	85+86
Lyngsfjord	69° 36' N, 20° 24' E	03.09.2005	PT	20–0	30	29	37	0.46	0.30	0.50	0.397***	–
Dønnesfjord	70° 39' N, 22° 37' E	15.09.1994	SS	3–0	65	7	1	0.94	0.10	0.12	0.178	99
Malangen	69° 30' N, 18° 05' E	15.09.1994	SS	3–0	58	19	1	0.87	0.24	0.23	–0.039	118
Sørøya	Ofjord	15.09.1994	SS	3–0	21	2	0	0.96	0.09	0.08	–0.023	–
Ullsfjord	Eidstranddjupet	15.09.1994	SS	3–0	11	11	8	0.55	0.37	0.50	0.275	–

Balsfjord, Loddebukta	69° 14.1' N, 19° 23.0' E	29.08.1995	SS	3-0	57	8	0	0.94	0.12	0.12	-0.058	112
Sørøya	Breivikfjord	24.08.1995	SS	3-0	8	5	3	0.66	0.31	0.45	0.337	-
Dønnesfjord	70° 40.4' N, 22° 36.2' E	24.08.1995	SS	3-0	45	12	6	0.81	0.19	0.31	0.389**	98
Malangen, Tennholmen	69° 19.6' N, 18° 8.2' E	01.09.1995	SS	3-0	37	8	1	0.89	0.17	0.19	0.113	117
Porsanger, Reppvåg	70° 44.6' N, 25° 40.5' E	22.08.1995	SS	3-0	13	20	3	0.64	0.56	0.46	-0.190	91
Sørfjord, Skjåberg	69° 25.8' N, 19° 37.8' E	28.08.1995	SS	3-0	30	11	2	0.83	0.26	0.29	0.123	107
Sørfjord, Skognes	69° 30.9' N, 19° 39.3' E	28.08.1995	SS	3-0	36	26	5	0.73	0.39	0.39	0.030	103
Ullsfjord, Jøvika	69° 36.6' N, 19° 48.6' E	28.08.1995	SS	3-0	28	18	6	0.71	0.35	0.41	0.166	-
Vestfjord	68° 12.1' N, 14° 25.0' E	15.09.1995	SS	3-0	23	5	0	0.91	0.18	0.16	-0.080	119
Arnøya	Akkarvik	05.09.1996	SS	3-0	27	10	0	0.86	0.27	0.23	-0.143	100
Balsfjord	Loddebukta	06.09.1996	SS	3-0	40	9	3	0.86	0.17	0.25	0.308	111
Dønnesfjord, Klubben	70° 39.4' N, 22° 37.0' E	03.09.1996	SS	3-0	75	20	2	0.88	0.21	0.22	0.054	97
Laksefjord <sup>ms</sup>	Tømmervik	02.09.1996	SS	3-0	35	19	2	0.79	0.34	0.33	0.007	89
Malangen	Buvika	13.09.1996	SS	3-0	37	4	1	0.93	0.10	0.13	0.293	115
Malangen	Hekkingen	13.09.1996	SS	3-0	32	6	1	0.90	0.15	0.18	0.177	113
Porsanger	Inner part	02.09.1996	SS	3-0	14	13	2	0.71	0.45	0.41	-0.064	-
Porsanger	Outer part	02.09.1996	SS	3-0	6	7	2	0.63	0.47	0.46	0.030	-
Sørfjord	Skjåberg	05.09.1996	SS	3-0	68	21	8	0.81	0.22	0.31	0.303**	106
Sørfjord	Skognes	05.09.1996	SS	3-0	69	27	1	0.85	0.28	0.25	-0.090	102
Tanafjord	Trollfjord	02.09.1996	SS	3-0	12	17	2	0.66	0.55	0.45	-0.209	88
Ullsfjord	Jøvika	05.09.1996	SS	3-0	26	25	17	0.57	0.37	0.49	0.259*	-
Varanger <sup>ms</sup>	Ekkerøy	01.09.1996	SS	3-0	54	29	0	0.83	0.35	0.29	-0.206	87
Balsfjord	Loddebukta Silo	01.09.1997	SS	3-0	84	22	4	0.86	0.20	0.24	0.155	110
Balsfjord, Malangseidet	69° 23.5' N, 19° 00.2' E	01.09.1997	SS	3-0	67	32	9	0.77	0.30	0.36	0.172	108
Dønnesfjord, Klubben	70° 40.2' N, 22° 37.3' E	02.09.1997	SS	3-0	59	42	2	0.78	0.41	0.35	-0.171	96
Dønnesfjord	Klubben	09.09.1999	SS	3-0	56	4	0	0.97	0.07	0.06	-0.026	95
Porsanger, Austerbotn	70° 06.9' N, 25° 07.6' E	07.09.1999	SS	3-0	30	11	2	0.83	0.26	0.29	0.123	93
Porsanger, Reppvåg	70° 45.2' N, 25° 40.2' E	08.09.1999	SS	3-0	43	9	0	0.91	0.17	0.16	-0.085	90
Sørfjord	Skognes	02.09.2999	SS	3-0	20	7	8	0.67	0.20	0.44	0.557**	101
Ullsfjord	Jøvika	03.09.1999	SS	3-0	18	4	0	0.91	0.18	0.17	-0.080	-

Sørfjord	Lakselvnes	01.09.1999	SS	3-0	34	13	7	0.75	0.24	0.38	0.366*	105
Balsfjord, Andersdalen	69° 30.9' N, 18° 59.4' E	28.09.2000	SS	3-0	30	0	0	1.00	0.00	0.00	-	-
Balsfjord, Loddebukta	69° 14.3' N, 19° 22.9' E	28.09.2000	SS	3-0	20	2	0	0.95	0.09	0.09	-0.024	109
Dønnesfjord, Klubben	70° 40.3' N, 22° 37.0' E	05.10.2000	SS	3-0	49	23	3	0.81	0.31	0.31	0.024	94
Malangen, Buvika	69° 32.8' N, 18° 05.3' E	29.09.2000	SS	3-0	16	3	0	0.92	0.16	0.15	-0.059	114
Malangen, Tennholmen	69° 18.8' N, 18° 37.9' E	29.09.2000	SS	3-0	44	3	0	0.97	0.06	0.06	-0.022	116
Nipøya, Grøtsund	69° 49.5' N, 19° 25.7' E	27.09.2000	SS	3-0	11	7	2	0.73	0.35	0.40	0.147	-
Porsanger, Austerbotn <sup>ms</sup>	70° 06.9' N, 25° 07.3' E	04.10.2000	SS	3-0	45	8	5	0.84	0.14	0.26	0.481**	92
Sørfjord, Skognes	69° 29.7' N, 19° 39.5' E	27.09.2000	SS	3-0	6	1	0	0.93	0.14	0.13	-	-
Ullsfjord, Jægervatn	69° 43.7' N, 19° 49.5' E	25.09.2000	SS	3-0	7	8	2	0.65	0.47	0.46	0.000	-
Ullsfjord, Jøvika	69° 36.4' N, 19° 49.1' E	26.09.2000	SS	3-0	22	9	2	0.80	0.27	0.32	0.153	-
Varanger, Kobbholmfjord	69° 45.9' N, 30° 42.6' E	02.10.2000	SS	3-0	3	8	1	0.58	0.67	0.49	-0.333	-
Sørfjord	Lakselvnes	20.09.2000	SS	3-0	32	24	10	0.67	0.36	0.44	0.189	104
Varanger	Karlebotn	26.09.2001	SS	3-0	3	2	1	0.67	0.33	0.44	0.333	-
Dønnesfjord	70° 40' N, 22° 37' E	16.08.2007	SS	3-0	13	8	1	0.77	0.36	0.35	0.120	-
Ullsfjord	Jøvika	17.08.2007	SS	3-0	74	63	34	0.62	0.37	0.47	0.286*	-
Ullsfjord	Jøvika	17.08.2007	SS	3-0	48	18	7	0.78	0.25	0.34	0.233**	-
Dønnesfjord		17.09.2008	SS	3-0	64	31	8	0.77	0.30	0.35	0.150	-
Malangen	Aursfjord	16.09.2008	SS	3-0	18	11	3	0.73	0.34	0.39	0.135	-

Table S2. *Gadus morhua*. Basic genetic data for 16 microsatellite loci analyzed for 7 samples from Varangerfjord (V; 31 August and 1 September 1996), Laksefjord (L; 2 September 1996), and Porsangerfjord (P; 4 October 2000). SS: shore seine, PT: pelagic trawl, BT: bottom trawl. Sample size (n), number of alleles (A), observed ( $H_o$ ) and expected ( $H_e$ ) heterozygosity, and  $F_{IS}$  values are given for each individual locus and sample. Significance levels for deviations from expected Hardy-Weinberg proportions were adjusted according to the sequential Bonferroni procedure (Rice 1989). Significant  $F_{IS}$  estimates are asterisked (\*\*\*)  $p < 0.001$  level). na: estimates not available

Sample		GMO2	GMO3	GMO8	GMO19	GMO34	GMO37	GMO132	PGMO32	GMA107	TCH5	TCH11	TCH13	TCH14	TCH16	TCH19	TCH22
VSS	n	96	96	95	95	96	95	96	94	94	95	95	96	95	95	95	95
	A	13	6	24	23	7	12	24	5	22	22	20	23	24	2	3	6
	$H_o$	0.860	0.177	0.936	0.908	0.518	0.834	0.801	0.426	0.931	0.930	0.932	0.898	0.926	0.011	0.207	0.584
	$H_e$	0.823	0.166	0.874	0.821	0.531	0.811	0.750	0.426	0.915	0.926	0.937	0.844	0.916	0.011	0.168	0.537
	$F_{IS}$	0.042	0.059	0.066	0.096	-0.026	0.028	0.064	0.000	0.017	0.004	-0.005	0.061	0.011	na	0.187	0.081
VPT	n	96	96	96	96	96	96	96	95	94	95	96	96	95	94	95	95
	A	19	6	39	23	6	16	19	4	24	21	22	26	30	2	4	6
	$H_o$	0.900	0.167	0.935	0.910	0.249	0.859	0.520	0.345	0.926	0.930	0.932	0.920	0.949	0.021	0.308	0.537
	$H_e$	0.885	0.156	0.875	0.833	0.240	0.823	0.469	0.284	0.915	0.926	0.906	0.906	0.884	0.021	0.305	0.495
	$F_{IS}$	0.013	0.064	0.064	0.084***	0.036	0.042	0.098	0.176	0.012	0.004	0.027	0.015	0.068	-0.005	0.008	0.079
VBT	n	35	42	41	35	42	33	40	42	26	24	42	40	19	41	40	38
	A	9	4	20	18	3	13	8	5	18	13	17	20	18	1	3	6
	$H_o$	0.779	0.179	0.912	0.926	0.093	0.876	0.467	0.350	0.950	0.917	0.928	0.914	0.953	0.000	0.224	0.574
	$H_e$	0.714	0.191	0.805	0.857	0.095	0.788	0.350	0.381	0.808	1.000	0.952	0.875	0.842	0.000	0.250	0.474
	$F_{IS}$	0.083	-0.063	0.117	0.074	-0.028	0.101	0.250	-0.090	0.150***	-0.091	-0.026	0.042	0.117	na	-0.116	0.175
PSS	n	41	43	0	41	41	42	41	42	43	41	41	42	43	43	43	42
	A	11	5	0	18	7	11	15	4	19	16	16	24	24	2	2	6
	$H_o$	0.849	0.196		0.890	0.470	0.836	0.718	0.478	0.929	0.920	0.927	0.914	0.950	0.068	0.291	0.672
	$H_e$	0.854	0.209		0.927	0.439	0.976	0.707	0.548	0.744	0.902	0.854	0.952	0.954	0.070	0.349	0.571
	$F_{IS}$	-0.005	-0.066		-0.041	0.067	-0.167	0.014	-0.146	0.199***	0.019	0.079	-0.042	-0.004	-0.024	-0.200	0.149
PPT	n	50	50	50	50	49	50	50	49	49	50	50	50	50	50	50	50
	A	16	3	25	21	5	10	19	4	21	20	19	22	24	1	3	4
	$H_o$	0.877	0.168	0.918	0.921	0.415	0.831	0.697	0.446	0.934	0.938	0.938	0.925	0.952	0.000	0.305	0.575

	$H_E$	0.940	0.180	0.880	0.940	0.347	0.860	0.660	0.469	0.898	0.960	0.940	0.900	0.960	0.000	0.320	0.600
	$F_{IS}$	-0.072	-0.070	0.041	-0.020	0.165	-0.034	0.052	-0.052	0.039	-0.023	-0.002	0.027	-0.009	n.a	-0.051	-0.043
LSS	n	91	93	94	91	96	91	96	96	93	65	91	94	52	91	74	76
	A	17	7	27	20	7	12	25	5	20	20	21	27	29	2	3	6
	$H_O$	0.850	0.279	0.899	0.908	0.553	0.855	0.796	0.409	0.928	0.931	0.929	0.921	0.947	0.043	0.293	0.613
	$H_E$	0.728	0.261	0.850	0.860	0.609	0.871	0.707	0.371	0.909	0.890	0.936	0.913	0.892	0.044	0.297	0.484
	$F_{IS}$	0.143	-0.097	0.056	0.053	-0.101	-0.186	0.112	0.093	0.020	0.044	-0.007	0.009	0.058	-0.017	-0.012	0.212
LPT	n	92	92	93	93	92	93	92	89	88	91	93	92	83	91	91	91
	A	15	7	29	23	6	12	20	9	22	18	19	28	22	1	2	6
	$H_O$	0.868	0.183	0.926	0.922	0.233	0.850	0.560	0.424	0.931	0.928	0.932	0.924	0.915	0.000	0.246	0.630
	$H_E$	0.769	0.172	0.840	0.879	0.177	0.879	0.531	0.417	0.796	0.877	0.901	0.894	0.808	0.000	0.203	0.408
	$F_{IS}$	0.114***	0.058	0.092	0.046	0.238	-0.034	0.051	0.017	0.146***	0.055	0.033	0.033	0.117***	n.a	0.174	0.353***

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