

Pavlovska, M. and Höglund, J. 2015. Ukrainian black grouse *Tetrao tetrix*: genetic diversity and population structure. – Wildlife Biology doi: 10.2981/wlb.00093

Appendix 1

Table A1. Frequency of null alleles and F_{is} (inbreeding coefficient) calculated for each locus for the two Ukrainian black grouse populations – the northern (N) and the Carpathian (C). Values in boldface indicate significant departures from normality.

Locus	Population			
	Northern		Carpathian	
	Null allele frequency	Fis	Null allele frequency	Fis
ADL230	0.0000	-0.292	0.0000	-0.123
ADL257	0.6203	-	0.0000	-
ADL184	0.0000	-0.553	0.1374	0.247
ADL142	0.0000	-0.173	0.0000	-0.073
BG15	0.2211	0.535	0.0374	0.058
BG18	0.0038	-0.435	0.0381	0.040
TUT1	0.1861	0.393	0.0825	0.102
TUT2	0.1210	0.339	0.0874	0.101
TUT3	0.0812	0.105	0.2934	0.675
TUT4	0.0000	-0.421	0.0215	-0.077
Mean		-0.045		0.111

Table A2. Sequences of new MHC alleles detected in this study

Allele	Sequence
Tete-BLB*35	TGTGGCCGATACACCGCTGGGAGAGTACCCGGCTGAATACTTCAACAACAACACTG AGTATCTGGAGTATAGACGGGGTGAGGTGGACAGATACTGCCGGCACAACACTACGGG GTGTTTGAGCCCT
Tete-BLB*36	TGAGGCCGATACACCTCTGGGAGAGCTGCAAGCTGAATACTGGAACAACAACACCC AGATTATTGAGTACAAACAGGGTCAGGTGGACAATTACTGCCGGCACAACACTACGGG GTGTTTGAGCCCT
Tete-BLB*37	TGTGGCCGATACACCGCTGGGAGAGCTGCCAGCTGAATACATGAACAACGACACTG AGTATCTAGAGTATAGACGGGGTGAGGTGGTCAGATACTGCCGGCACAACACTACGGG GTTGGGGAGCCCT

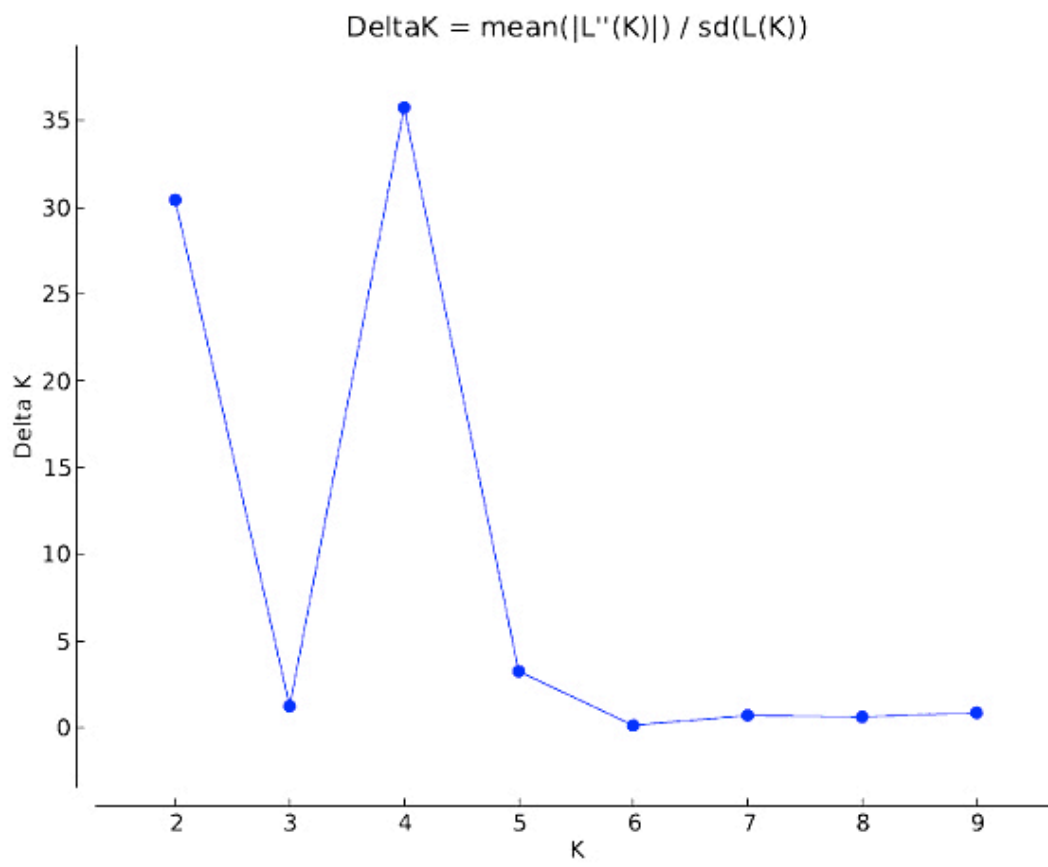


Figure A1. Number of clusters with the highest change in probability (Delta K) in Ukrainian black grouse.

Table A3. Microsatellite and MHC diversity of European black grouse populations. Neutral and adaptive genetic diversity of European black grouse: yellow – large continuous group, red – isolated group, green – small isolated group, white – Ukrainian populations (reprinted from Strand et al. 2011 and extended).

Population	n (msat)	H _e (msat)	AR (msat)	n MHC	Alleles/sample size (MHC)	π (MHC)	theta k (MHC)
Fin_C	57	0.78	5.76	29	0.48	13.96	4.5
Nor_C	31	0.74	5.32	11	0.91	12.68	6.18
SweJ_C	14	0.79	5.58	6	0.67	12.61	2.18
Lat_C	13	0.81	5.92	9	0.78	13.34	3.14
Alps_C	57	0.77	5.44	22	0.45	11.07	4.4
Eng_I	21	0.61	3.43	18	0.5	12.49	3
LH_I	24	0.64	4.83	6	1.17	8.83	6.15
Pol_I	23	0.68	4.31	14	0.36	7.59	1.86
Neth_SI	31	0.56	3.49	34	0.32	13.09	3.13
Aus_SI	14	0.62	4.09	8	0.5	13.1	1.57
Ger_SI	22	0.73	5.05	7	0.57	10.4	1.8
Ukr_N	75	0.71	6.44	36	0.44	14.1	5.35
Ukr_C	31	0.87	9.18	20	0.45	12.51	4.19

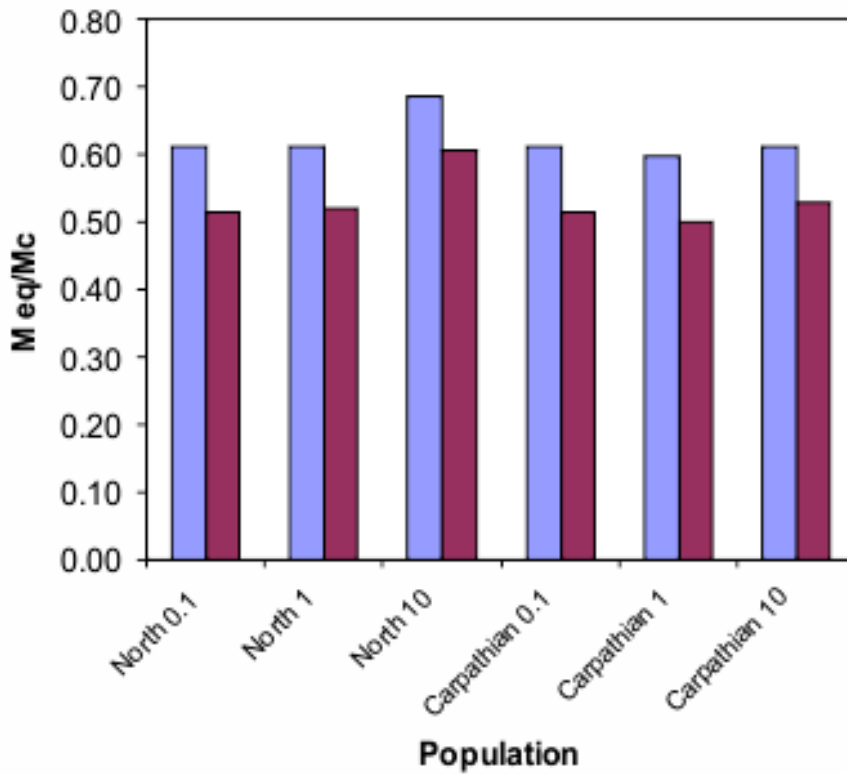


Figure A2. Equilibrium MRatio (Meq, blue bars) and Critical M (Mc, red bars) calculated for the northern and the Carpathian population with 3 different θ (0.1, 1 and 10).

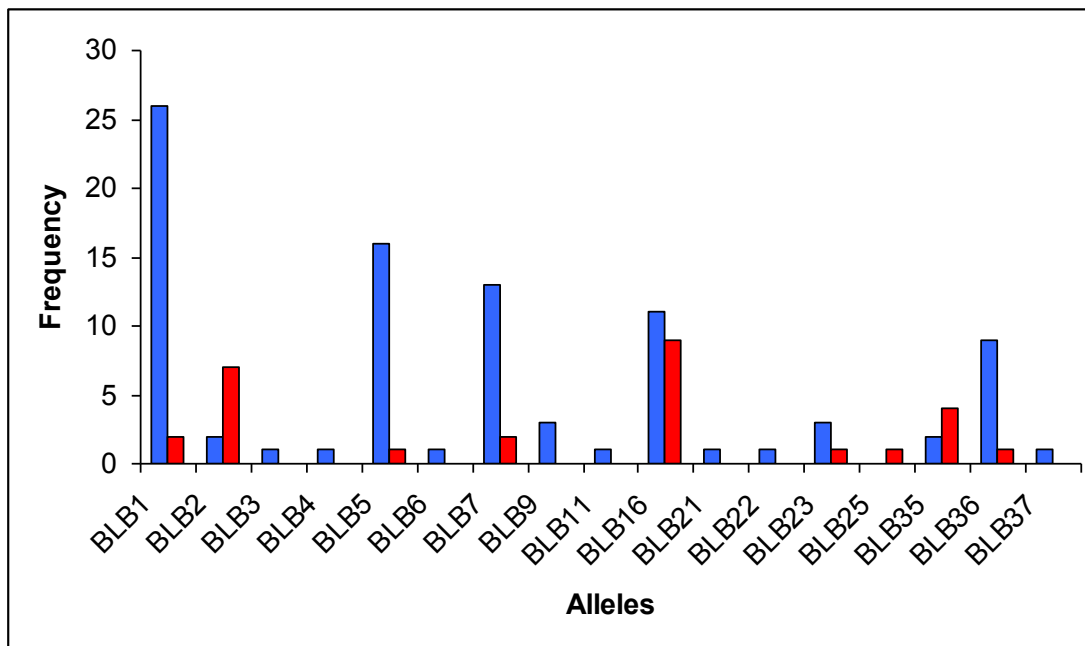


Figure A3. The distribution of MHC alleles frequencies in the northern (blue bars) and the Carpathian (red bars) populations of black grouse.