

Supplementary material

Appendix 1

Supplementary Tables

Supplementary Table A1. Nestling survival, juvenile survival and recruitment in Lundy house sparrows in relation to MHC diversity, body mass, hatch date, cross-fostering, brood size and sex. Parameter estimates and 95% CI from mixed models using GLMM with a logit-link function and a binomial error structure; statistically significant fixed effects (95% CI does not overlap zero) are indicated in bold. Nestling survival: $N = 487$ nestlings from 249 broods, juvenile survival and recruitment: $N = 298$ individuals from 174 broods

Fixed	Parameter estimates (95% confidence interval)		
	Nestling survival	Juvenile survival	Recruitment
Intercept	-5.54 (-8.04 - -3.04)	-3.91 (-6.18 - -1.64)	-3.91(-6.57 - -1.25)
No. of alleles	-0.12 (-0.39 - 0.15)	-0.08 (-0.31 - 0.15)	-0.15 (-0.42 - 0.12)
Mass day 2	0.91 (0.66 - 1.16)		
Mass day 12		0.18 (0.10 - 0.26)	0.19 (0.09 - 0.29)
Hatch date	0.02 (0.01 - 0.03)	0.008 (-0.002 - 0.02)	0.006 (-0.004 - 0.02)
Cross fostered	-1.70 (-2.43 - -0.97)	0.84 (0.25 - 1.43)	0.88 (0.21 - 1.55)
Brood size	0.04 (-0.31 - 0.39)	-0.05 (-0.30 - 0.20)	-0.14 (-0.43 - 0.15)
Sex	0.11 (-0.48 - 0.70)	-0.25 (-0.76 - 0.26)	-0.40 (-0.97 - 0.17)
Random	Variance	Variance	Variance
Brood identity	3.25	0.24	0
Social Mother	2.94e-13	0	1.02e-15
Social Father	3.21e-12	0	0
Cohort	0.64	2.02e-10	0.33

Table A2. Association between nestling survival, juvenile survival and recruitment, and specific MHC-I alleles in Lundy house sparrow cohort 2005, controlling for body mass, hatch date, cross-fostering. Parameter estimates are shown for each MHC-I allele and statistically significant effects are shown in bold. *N*-values are identical for juvenile survival and recruitment. The effect for brood identity and the identity of the parents were always estimated positively, with some exceptions when they were estimated as zero. NA indicates not analysed due to low sample size.

Parameter estimates and standard errors								
MHC-I allele	N	nestling survival		N	juvenile survival		recruits	
915	193	0,84	1,56	114	0,44	0,84	NA	
919	193	0,85	0,73	114	0,06	0,50	-0,02	0,78
930	193	0,49	0,66	114	-0,13	0,51	0,12	0,76
935	193	1,02	0,75	114	0,54	0,49	-0,34	0,84
1024	193	-2,49	1,19	114	-0,18	1,28	NA	
1028	193	0,57	0,81	114	-0,07	0,56	-0,10	0,87
1030	193	1,02	1,14	114	1,03	0,67	1,02	0,90
1051	193	-0,64	0,96	114	-0,11	0,74	0,56	1,21
1054	193	-3,15	1,21	114	-0,11	1,24	1,38	1,29
1058	193	0,22	0,60	114	-0,67	0,52	0,32	0,76
1060	193	-0,83	0,70	114	0,34	0,62	0,37	0,91
1065	193	-0,21	0,66	114	0,87	0,59	0,39	0,89
1069	193	0,10	0,59	114	0,23	0,46	-1,14	1,01
1073	193	-0,62	0,69	114	-0,25	0,56	0,06	0,85
1076	193	-0,04	0,50	114	-0,58	0,43	-0,36	0,67
1079	193	-0,74	0,77	114	0,37	0,53	0,32	0,86
1082	193	0,39	0,72	114	-0,06	0,51	0,03	0,79
1102	193	0,38	0,89	114	-0,84	0,67	-1,14	1,30
1105	193	1,32	1,00	114	1,53	0,63	1,27	0,80
1114	193	-0,38	0,96	114	-0,88	0,89	NA	
1121	193	0,75	0,84	114	-1,09	0,86	-0,53	1,15