

**Table S1. Summary of model selection results.**

Model Structure	<i>-loglik</i>	AIC	$\Delta$ AICc	p>ChiSq.
<b>Luteinizing hormone models (all birds- song experiment)</b>				
Subspecies, Time	-204.2	420.5	0	
Subspecies, Time, Song	-203.9	421.8	1.3	0.405
Subspecies , Time, Song and Song*Time	-202.9	421.9	1.4	
Subspecies, Time, Song and Species*Time, Song*Time	-202.2	422.5	2	
Subspecies, Time, Song and all 2 way interactions	-202.2	424.4	3.9	
Subspecies, Time, Song and all 2 and 3 way interactions	-202.2	426.4	5.9	
Date	-209.2	428.5	8	
<b>Follicle stage score models (all birds- song experiment)</b>				
Subspecies, Time, Song and all 2 and 3 way interactions	-184.1	396.2	0	
*Interaction terms significant, full model retained				
<b>Terminal ovary mass models (all birds- song experiment)</b>				
<i>Subspecies, Structural size and Interaction *post hoc supplementary model</i>	60.2	-108.4		
Subspecies	56.9	-105.9	0	
Subspecies and Song	57.5	-105.1	0.8	0.27
Subspecies, Song and Interaction	57.9	-103.9	2	
Null model	53.9	-101.9	4	
<b>Terminal oviduct mass models (all birds- song experiment)</b>				
<i>Subspecies, Structural size and Interaction *post hoc supplementary model</i>	13.1	-14.2		
Subspecies	10.3	-12.7	0	
Null model	8.6	-11.2	1.5	0.062
Subspecies and Song	10.6	-11.1	1.6	
Subspecies, Song and Interaction	10.7	-9.5	3.2	
<b>Terminal follicle size models (all birds- song experiment)</b>				
<i>Subspecies, Structural size and Interaction *post hoc supplementary model</i>	-47.3	106.6		
Subspecies	-51.9	111.8	0	
Subspecies and Song	-51.7	113.4	1.4	0.522
Subspecies, Song and Interaction	-51.7	115.4	3.8	
Null model	-59.1	124.8	13	
<b>Mass index models (all birds-song experiment)</b>				
Subspecies, Time, and Subspecies*Time	-892	1798.1	0	
Subspecies, Time, Song, and Subspecies*Time	-891.5	1799.1	1	0.3249
Subspecies, Time, Song, Subspecies*Time, and Song*Time	-891.1	1800.2	2.1	
Subspecies, Time, Song and all 2 way	-891	1802	3.9	

interactions				
Subspecies, Time, Song and all 2 and 3 way interactions	-890.8	1803.6	5.5	
Subspecies and Time	-931.4	1874.8	86.7	
<b>Molt score jd 90 models (migrants only- song experiment)</b>				
Song	-30.6	75.1	0	0.0575
Null model	-32.4	76.7	1.6	
<b>Molt score jd 104 models (migrants only- song experiment)</b>				
Song	29.4	72.8	0	0.0245
Null model	-31.9	75.8	3	
<b>Luteinizing hormone models (migrants only- live male experiment)</b>				
Time	-10.6	31.2	0	0.548
Time and Live male	--10.0	34.0	2.8	
Time, Live male and Interaction	-9.0	36.0	4.8	
Null model	-16.8	41.5	10.3	
<b>Follicle stage score models (migrants only- live male experiment)</b>				
Time, Live male or Song and Interaction	-105.6	233.1		
*Interaction term significant, full model retained				
<b>Terminal ovary mass models (migrants only- live male experiment)</b>				
Live male or Song	-171.8	-161.8		
*Main term significant, full model retained				
<b>Terminal follicle size models (migrants only- live male experiment)</b>				
Live male or Song	-8.1	26.2	0	
*Main term significant, full model retained				
<b>Terminal follicle size models (migrants only- live male experiment)</b>				
Null model	93.7	-181.4	0	0.358
Live male or Song	94.8	-179.5	0.9	

**Table S2. Summary of best fit model results.**

<b>Luteinizing hormone model (all birds- song experiment)<sup>1</sup></b>					
Parameter	Estimate	SE	df	t	p
Intercept	-0.26	0.0726	48.9	-3.576	<0.001
Subspecies (resident)	0.315	0.093	38.9	3.378	0.002
Time (days)	2.90*10 <sup>-3</sup>	7.63*10 <sup>-4</sup>	269.7	3.794	<0.001
<b>Follicle stage score model (all birds- song experiment)<sup>1</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Subspecies (resident)	1.431	0.699	2.048	0.041	
Time (days)	0.014	0.011	1.328	0.184	
Song	-0.496	0.708	-0.7	0.484	
Subspecies * Song	0.607	0.909	0.668	0.504	
Song * Time	0.017	0.014	1.264	0.206	
Subspecies* Time	0.062	0.015	4.15	<0.001	
Subspecies*Time*Song	-0.037	0.018	-2.055	0.0399	
	Estimate	SE	z		
Threshold Coefficients					
2 and below   2.5	0.072	0.553	0.131		
2.5   3	0.505	0.555	0.909		
3   3.5	2.763	0.625	4.421		
3.5   4	4.299	0.687	6.26		
4   4.5 and above	7.059	0.841	8.393		
<b>Terminal ovary mass model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.024	0.013	38	-1.843	0.073
Subspecies (resident)	0.045	0.018	38	2.54	0.015
<b>Terminal oviduct mass model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.06	0.043	38	-1.388	0.173
Subspecies (resident)	0.115	0.060	38	1.913	0.063
<b>Terminal follicle size model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.68	0.224	38	-3.037	0.004
Subspecies (resident)	1.291	0.308	38	4.187	<0.001
<b>Mass index model (all birds- song experiment)<sup>1</sup></b>					
Intercept	-1.686114	0.71249	50.1	-2.367	0.0219
Subspecies (resident)	1.494245	0.97083	50.1	1.539	0.1301
Time (days)	0.056622	0.00545	347.2	10.398	<0.001
Subspecies * Time	-0.070153	0.00746	347.4	-9.406	<0.001

<b>Molt jd 90 (migrants only- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Song	1.7434	0.9497	1.836	0.066	
	Estimate	SE	z		
<b>Threshold Coefficients</b>					
0   1	-0.363	0.742	-0.489		
1   4	0.297	0.741	0.401		
4   5	0.865	0.776	1.115		
5   6	1.128	0.795	1.418		
6   7	1.399	0.822	1.702		
7   8	2.952	1	2.951		
* Note no scores of 2,3, or 9 observed					
<b>Molt jd 104 (migrants only- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Song	-2.0809	0.9698	-2.146	0.0319	
	Estimate	SE	z		
<b>Threshold Coefficients</b>					
0   1	-2.199	0.902	-2.438		
1   2	-1.321	0.803	-1.645		
2   3	-0.762	0.760	-1.003		
3   5	0.115	0.775	0.149		
5   8	1.011	0.892	1.134		
8   9	1.872	1.111	1.684		
* Note no scores of 4, 7 or 8 observed					
<b>Luteinizing hormone model (migrants only- live male experiment)<sup>1</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.129	-0.049	9.122	-2.635	0.001
Time (days)	0.002	5.36*10 <sup>-4</sup>	161.0	3.581	<0.001
<b>Follicle stage score model (migrants only- live male experiment)<sup>1</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Time (days)	0.016	0.011	1.429	0.153	
Live male	0.403	0.854	0.472	0.637	
Song	-0.467	0.726	-0.644	0.520	
Time* Live male	0.034	0.017	2.064	0.039	
Time* Song	0.018	0.014	1.262	0.207	
	Estimate	SE	z		
<b>Threshold Coefficients</b>					

2 and below   2.5	0.1009	0.6003	0.168		
2.5   3	0.5372	0.6044	0.889		
3   3.5	3.1288	0.7130	4.388		
3.5   4	4.4895	0.8165	5.498		
Note that no birds scored >4.					
<b>Terminal ovary mass model (migrants only- live male experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.003	0.002	14.587	-1.224	0.240
Live male	0.008	0.003	20.351	2.317	0.031
Song	0.003	0.003	20.143	0.934	0.361
<b>Terminal follicle size model (migrants only- live male experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.223	0.141	23.0	-1.583	0.127
Live male	0.563	0.208	23.0	2.703	0.013
Song	0.192	0.172	23.0	1.114	0.277
<b>Terminal oviduct model (migrants only- live male experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.002	0.002	17.454	-1.150	0.266
Live male	0.003	0.002	20.335	1.386	0.181
Song	0.002	0.002	20.048	1.162	0.259

<sup>1</sup> Random effects for individual id nested within chamber position (shelf) were included

<sup>2</sup> Random effects for shelf were included.

<sup>3</sup> No random effects were included in the model.

**Table S3. Summary of post hoc test results**

<b>Model for pre-treatment follicle stage score (all birds- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Subspecies (resident)	-0.522	0.956	-0.5	0.585	
Song	-1.046	0.962	-1.1	0.277	
Subspecies * Song	1.266	1.271	1	0.319	

	Estimate	SE	z		
Threshold Coefficients					
2 and below   2.5	-0.468	0.753	-0		
2.5   3	-0.034	0.747	-0		
3   3.5	3.165	1.196	2.65		
Note that no birds scored >3.5					
<b>Model for Julian date 62 follicle stage score (all birds- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Subspecies (resident)	5.812	1.642	3.58	<0.001	
Song	1.155	1.235	0.94	0.35	
Subspecies * Song	-0.775	1.4825	-0.5	0.601	
	Estimate	SE	z		
Threshold Coefficients					
2 and below   2.5	1.519	1.099	1.38		
2.5   3	2.291	1.16	1.98		
3   3.5	4.585	1.493	3.07		
3.5   4	6.709	1.591	4.22		
4   4.5 and above	9.02	1.85	4.88		
<b>Model for Julian date 90 follicle stage score (all birds- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Subspecies (resident)	4.673	1.374	3.4	<0.001	
Song	0.568	1.095	0.52	0.604	
Subspecies * Song	-2.351	1.449	-1.6	0.105	
	Estimate	SE	z		
Threshold Coefficients					
2 and below   2.5	-0.91	-0.975	-0.9		
2.5   3	-0.337	0.988	-0.3		
3   3.5	1.703	1.0721	1.59		
3.5   4	2.77	1.123	2.47		
4   4.5 and above	5.87	1.375	4.27		
<b>Model for terminal follicle stage score (all birds- song experiment)<sup>3</sup></b>					
	Estimate	SE	z	p	
Fixed Effects					
Subspecies (resident)	5.543	1.432	3.87	<0.001	
Song	0.672	1.069	0.63	0.529	
Subspecies * Song	-1.797	1.391	-1.3	0.197	
	Estimate	SE	z		
Threshold Coefficients					
2 and below   2.5	-1.684	0.971	-1.7		

Note that no birds scored a 2.5					
3   3.5	1.492	1.151	1.53		
3.5   4	3.083	1.151	2.68		
4   4.5 and above	5.367	1.319	4.07		
<b>Model for initial mass index (all birds-song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-2.291	0.705	39	-3.25	0.002
Subspecies (resident)	1.673	0.961	39	1.741	0.089
<b>Model for terminal mass index (all birds-song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	4.043	0.789	38	5.126	<0.001
Subspecies (resident)	-5.442	1.087	38	-5.005	<0.001

<sup>1</sup> Random effects for individual id nested within chamber position (shelf) were included

<sup>2</sup> Random effects for shelf were included.

<sup>3</sup> No random effects were included in the model.

**Table S4. Results for supplementary analyses.**

<b>Supplementary terminal ovary mass model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.023	0.02	38	-1.175	0.247
Subspecies (resident)	0.018	0.025	38	0.714	0.48
Structural Size	5.676 *10 <sup>-4</sup>	0.022	38	0.026	0.979
Subspecies* Structural Size	0.04	0.026	38	1.513	0.139
<b>Supplementary terminal oviduct mass model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.058	0.068	38	-0.857	0.397
Subspecies (resident)	0.028	0.085	38	0.332	0.742
Structural Size	0.003	0.075	38	0.04	0.968
Subspecies* Structural Size	0.125	0.091	38	1.372	0.178
<b>Supplementary follicle size model (all birds- song experiment)<sup>2</sup></b>					
	Estimate	SE	df	t	p
Intercept	-0.681	0.332	38	-2.049	0.047
Subspecies (resident)	0.746	0.417	38	1.787	0.082
Structural Size	-0.003	0.365	38	-0.007	0.995
Subspecies* Structural Size	0.834	0.446	38	1.868	0.069

<sup>1</sup> Random effects for individual id nested within chamber position (shelf) were included

<sup>2</sup> Random effects for shelf were included.

<sup>3</sup> No random effects were included in the model.