Supplementary file 4

Alignment	dS vs maturity correlation	pp	GC3 vs maturity correlation	pp
1	-0.824	0	-0.14	0.28
2	-0.772	0	-0.151	0.27
3	-0.78	0	-0.418	0.069
4	-0.854	0	-0.697	0.0004
5	-0.777	0	-0.588	0.0094
6	-0.757	0	-0.29	0.11
7	-0.962	0	-0.806	0.0054
8	-0.79	0	-0.434	0.036
9	-0.721	0.0004	-0.641	0.005
10	-0.811	0	-0.52	0.042

Results from 10 Coevol chains (see Materials and Methods) show negative correlations through time between age of 1st female sexual maturity (labelled "maturity") and dS, which was used to model trait evolution along the tree. They also show a negative relationship between GC3 and age of 1st female sexual maturity through time. Although not all alignments reached low posterior probabilities, this is consistent with our observation that small-bodied birds with short generation times and large populations tend to have higher GC3.