### Supplementary information for Spurgin *et al.* "Telomeres reveal complex silver spoon effects in a wild population"

**Table S1** Model selection table for analysis of factors affecting early life telomere length in Seychelles warbler chicks. Only models that remained in the top model set for model averaging (AICc 6 compared to the top model) are included here. i = intercept.

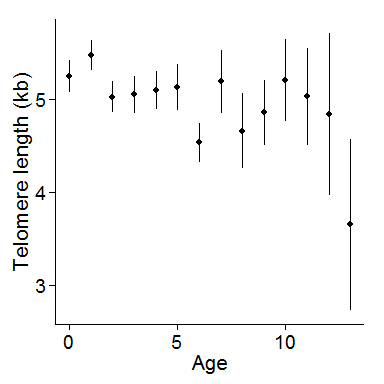
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | df | AICc | Delta AICc | Weight |
| i + Helpers + Tarsus length + TQ | 6 | 349.876 | 0.000 | 0.057 |
| i + Helpers + Tarsus length | 5 | 350.056 | 0.180 | 0.052 |
| i + Tarsus length + TQ | 5 | 350.475 | 0.599 | 0.042 |
| i + Helpers + Non helpers + Tarsus length + TQ | 7 | 351.175 | 1.299 | 0.030 |
| i + Helpers + Food av. + Tarsus length + TQ | 7 | 351.213 | 1.337 | 0.029 |
| i + Sex + Helpers + Tarsus length + TQ | 7 | 351.309 | 1.432 | 0.028 |
| i + Body Mass + Helpers | 5 | 351.467 | 1.590 | 0.026 |
| i + Sex + Tarsus length + TQ | 6 | 351.494 | 1.618 | 0.025 |
| i + Helpers + Food av. + Tarsus length | 6 | 351.498 | 1.622 | 0.025 |
| i + Food av. + Tarsus length + TQ | 6 | 351.624 | 1.748 | 0.024 |
| i + Helpers + Non helpers + Tarsus length | 6 | 351.683 | 1.807 | 0.023 |
| i + Sex + Helpers + Tarsus length | 6 | 351.687 | 1.811 | 0.023 |
| i + Helpers + Food av. + Non helpers + Tarsus length + TQ | 8 | 352.186 | 2.310 | 0.018 |
| i + Sex + Helpers + Non helpers + Tarsus length + TQ | 8 | 352.188 | 2.312 | 0.018 |
| i + Non helpers + Tarsus length + TQ | 6 | 352.199 | 2.323 | 0.018 |
| i + Body Mass + Helpers + Tarsus length + TQ | 7 | 352.308 | 2.432 | 0.017 |
| i + Body Mass + Helpers + Tarsus length | 6 | 352.384 | 2.508 | 0.016 |
| i + Body Mass + Helpers + TQ | 6 | 352.519 | 2.643 | 0.015 |
| i + Sex + Body Mass + Helpers | 6 | 352.617 | 2.740 | 0.014 |
| i + Body Mass + TQ | 5 | 352.635 | 2.759 | 0.014 |
| i + Helpers + Food av. + Non helpers + Tarsus length | 7 | 352.663 | 2.787 | 0.014 |
| i + Tarsus length | 4 | 352.737 | 2.861 | 0.014 |
| i + Sex + Non helpers + Tarsus length + TQ | 7 | 352.788 | 2.912 | 0.013 |
| i + Body Mass + Helpers + Food av. | 6 | 352.796 | 2.920 | 0.013 |
| i + Body Mass + Tarsus length + TQ | 6 | 352.836 | 2.960 | 0.013 |
| i + Sex + Helpers + Non helpers + Tarsus length | 7 | 352.972 | 3.095 | 0.012 |
| i + Sex + Body Mass + TQ | 6 | 353.060 | 3.184 | 0.012 |
| i + Body Mass + Helpers + Non helpers | 6 | 353.104 | 3.228 | 0.011 |
| i + Sex + Helpers + Food av. + Tarsus length + TQ | 8 | 353.150 | 3.274 | 0.011 |
| i + Food av. + Non helpers + Tarsus length + TQ | 7 | 353.154 | 3.278 | 0.011 |
| i + Body Mass | 4 | 353.233 | 3.357 | 0.011 |
| i + Sex + Food av. + Tarsus length + TQ | 7 | 353.307 | 3.431 | 0.010 |
| i + Sex + Body Mass + Helpers + TQ | 7 | 353.321 | 3.445 | 0.010 |
| i + Sex + Helpers + Food av. + Tarsus length | 7 | 353.558 | 3.682 | 0.009 |
| i + Body Mass + Food av. + TQ | 6 | 353.647 | 3.771 | 0.009 |
| i + Body Mass + Helpers + Non helpers + Tarsus length + TQ | 8 | 353.685 | 3.809 | 0.008 |
| i + Body Mass + Helpers + Food av. + Tarsus length + TQ | 8 | 353.710 | 3.833 | 0.008 |
| i + Body Mass + Helpers + Food av. + TQ | 7 | 353.727 | 3.850 | 0.008 |
| i + Sex + Body Mass + Helpers + Non helpers | 7 | 353.754 | 3.878 | 0.008 |
| i + Sex + Helpers + Food av. + Non helpers + Tarsus length + TQ | 9 | 353.768 | 3.892 | 0.008 |
| i + Sex + Body Mass + Helpers + Tarsus length + TQ | 8 | 353.818 | 3.942 | 0.008 |
| i + Body Mass + Helpers + Food av. + Tarsus length | 7 | 353.900 | 4.024 | 0.008 |
| i + Sex + Helpers | 5 | 353.916 | 4.040 | 0.008 |
| i + Sex + Body Mass + Tarsus length + TQ | 7 | 353.928 | 4.051 | 0.007 |
| i + Body Mass + Helpers + Food av. + Non helpers | 7 | 353.966 | 4.090 | 0.007 |
| i + Sex + Tarsus length | 5 | 353.978 | 4.101 | 0.007 |
| i + Food av. + Tarsus length | 5 | 353.981 | 4.105 | 0.007 |
| i + Body Mass + Helpers + Non helpers + Tarsus length | 7 | 354.010 | 4.134 | 0.007 |
| i + Body Mass + Food av. + Tarsus length + TQ | 7 | 354.016 | 4.140 | 0.007 |
| i + Body Mass + Helpers + Non helpers + TQ | 7 | 354.033 | 4.156 | 0.007 |
| i + Sex + Body Mass + Helpers + Tarsus length | 7 | 354.065 | 4.189 | 0.007 |
| i + Sex + TQ | 5 | 354.137 | 4.261 | 0.007 |
| i + Sex + Body Mass | 5 | 354.149 | 4.273 | 0.007 |
| i + Sex + Body Mass + Helpers + Non helpers + TQ | 8 | 354.227 | 4.350 | 0.006 |
| i + Sex + Body Mass + Non helpers + TQ | 7 | 354.335 | 4.459 | 0.006 |
| i + Helpers + Food av. | 5 | 354.353 | 4.477 | 0.006 |
| i + Helpers | 4 | 354.439 | 4.563 | 0.006 |
| i + Sex + Food av. + Non helpers + Tarsus length + TQ | 8 | 354.446 | 4.570 | 0.006 |
| i + Body Mass + Food av. | 5 | 354.459 | 4.583 | 0.006 |
| i + Body Mass + Non helpers + TQ | 6 | 354.468 | 4.592 | 0.006 |
| i + Sex + Helpers + Food av. + Non helpers + Tarsus length | 8 | 354.477 | 4.600 | 0.006 |
| i + Sex + Body Mass + Helpers + Food av. | 7 | 354.502 | 4.626 | 0.006 |
| i + Sex | 4 | 354.616 | 4.740 | 0.005 |
| i + Body Mass + Non helpers + Tarsus length + TQ | 7 | 354.636 | 4.759 | 0.005 |
| i + Non helpers + Tarsus length | 5 | 354.762 | 4.886 | 0.005 |
| i + Sex + Body Mass + Helpers + Non helpers + Tarsus length + TQ | 9 | 354.766 | 4.890 | 0.005 |
| i + Body Mass + Helpers + Food av. + Non helpers + Tarsus length + TQ | 9 | 354.774 | 4.897 | 0.005 |
| i + Body Mass + Helpers + Food av. + Non helpers + TQ | 8 | 354.861 | 4.985 | 0.005 |
| i + Body Mass + Tarsus length | 5 | 354.889 | 5.013 | 0.005 |
| i + Sex + Body Mass + Food av. + TQ | 7 | 354.904 | 5.028 | 0.005 |
| i + Food av. + TQ | 5 | 354.966 | 5.090 | 0.004 |
| i + Sex + Helpers + TQ | 6 | 354.994 | 5.117 | 0.004 |
| i + Body Mass + Helpers + Food av. + Non helpers + Tarsus length | 8 | 355.069 | 5.193 | 0.004 |
| i + Food av. | 4 | 355.135 | 5.259 | 0.004 |
| i + Sex + Body Mass + Helpers + Food av. + TQ | 8 | 355.197 | 5.321 | 0.004 |
| i | 3 | 355.251 | 5.375 | 0.004 |
| i + Body Mass + Food av. + Non helpers + TQ | 7 | 355.268 | 5.391 | 0.004 |
| i + Sex + Body Mass + Helpers + Food av. + Non helpers | 8 | 355.268 | 5.392 | 0.004 |
| i + Body Mass + Non helpers | 5 | 355.269 | 5.393 | 0.004 |
| i + Sex + Body Mass + Non helpers + Tarsus length + TQ | 8 | 355.293 | 5.417 | 0.004 |
| i + Sex + Helpers + Food av. | 6 | 355.303 | 5.427 | 0.004 |
| i + Sex + Body Mass + Helpers + Non helpers + Tarsus length | 8 | 355.313 | 5.436 | 0.004 |
| i + Sex + Food av. + TQ | 6 | 355.343 | 5.467 | 0.004 |
| i + TQ | 4 | 355.565 | 5.689 | 0.003 |
| i + Sex + Helpers + Non helpers | 6 | 355.595 | 5.719 | 0.003 |
| i + Body Mass + Food av. + Non helpers + Tarsus length + TQ | 8 | 355.654 | 5.777 | 0.003 |
| i + Helpers + Food av. + TQ | 6 | 355.658 | 5.782 | 0.003 |
| i + Food av. + Non helpers + Tarsus length | 6 | 355.715 | 5.839 | 0.003 |
| i + Sex + Body Mass + Helpers + Food av. + Tarsus length + TQ | 9 | 355.733 | 5.857 | 0.003 |
| i + Sex + Non helpers + Tarsus length | 6 | 355.749 | 5.873 | 0.003 |
| i + Sex + Body Mass + Food av. + Tarsus length + TQ | 8 | 355.798 | 5.922 | 0.003 |
| i + Sex + Food av. + Tarsus length | 6 | 355.799 | 5.922 | 0.003 |
| i + Sex + Body Mass + Helpers + Food av. + Non helpers + TQ | 9 | 355.805 | 5.928 | 0.003 |
| i + Sex + Body Mass + Non helpers | 6 | 355.875 | 5.998 | 0.003 |

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**Table S2** Model selection table for analysis of factors affecting early life telomere length in Seychelles warbler fledglings and subadults. Only models that remained in the top model set for model averaging (AICc 6 compared to the top model) are included here. i = intercept.

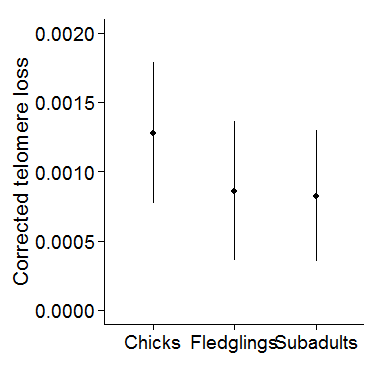
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | df | AICc | Delta AICc | Weight |
| i + Food av. + TQ | 5 | 759.434 | 0.000 | 0.102 |
| i + Body Mass + Food av. + TQ | 6 | 760.154 | 0.721 | 0.071 |
| i + Food av. | 4 | 760.162 | 0.728 | 0.071 |
| i + Body Mass + Food av. | 5 | 760.890 | 1.456 | 0.049 |
| i + Food av. + Tarsus length + TQ | 6 | 761.252 | 1.819 | 0.041 |
| i + Sex + Food av. + TQ | 6 | 761.422 | 1.989 | 0.038 |
| i + Helpers + Food av. + TQ | 6 | 761.426 | 1.993 | 0.038 |
| i + Food av. + Non helpers + TQ | 6 | 761.535 | 2.101 | 0.036 |
| i + Food av. + Tarsus length | 5 | 761.948 | 2.515 | 0.029 |
| i + Sex + Body Mass + Food av. + TQ | 7 | 762.062 | 2.628 | 0.028 |
| i + Body Mass + Food av. + Non helpers + TQ | 7 | 762.081 | 2.647 | 0.027 |
| i + Food av. + Non helpers | 5 | 762.132 | 2.698 | 0.027 |
| i + Body Mass + Helpers + Food av. + TQ | 7 | 762.147 | 2.714 | 0.026 |
| i + Sex + Food av. | 5 | 762.206 | 2.772 | 0.026 |
| i + Body Mass + Food av. + Tarsus length + TQ | 7 | 762.275 | 2.841 | 0.025 |
| i + Helpers + Food av. | 5 | 762.283 | 2.850 | 0.025 |
| i + Body Mass + Food av. + Non helpers | 6 | 762.594 | 3.161 | 0.021 |
| i + Sex + Body Mass + Food av. | 6 | 762.606 | 3.172 | 0.021 |
| i + Body Mass + Food av. + Tarsus length | 6 | 762.993 | 3.559 | 0.017 |
| i + Body Mass + Helpers + Food av. | 6 | 763.033 | 3.599 | 0.017 |
| i + Helpers + Food av. + Tarsus length + TQ | 7 | 763.253 | 3.819 | 0.015 |
| i + Food av. + Non helpers + Tarsus length + TQ | 7 | 763.333 | 3.900 | 0.015 |
| i + Sex + Food av. + Tarsus length + TQ | 7 | 763.423 | 3.989 | 0.014 |
| i + Sex + Helpers + Food av. + TQ | 7 | 763.437 | 4.003 | 0.014 |
| i + Sex + Food av. + Non helpers + TQ | 7 | 763.530 | 4.096 | 0.013 |
| i + Helpers + Food av. + Non helpers + TQ | 7 | 763.582 | 4.148 | 0.013 |
| i + Food av. + Non helpers + Tarsus length | 6 | 763.867 | 4.433 | 0.011 |
| i + Sex + Body Mass + Food av. + Non helpers + TQ | 8 | 763.979 | 4.546 | 0.011 |
| i + Sex + Food av. + Tarsus length | 6 | 764.007 | 4.574 | 0.010 |
| i + Sex + Body Mass + Helpers + Food av. + TQ | 8 | 764.082 | 4.648 | 0.010 |
| i + Helpers + Food av. + Tarsus length | 6 | 764.093 | 4.659 | 0.010 |
| i + Body Mass + Helpers + Food av. + Non helpers + TQ | 8 | 764.167 | 4.733 | 0.010 |
| i + Sex + Food av. + Non helpers | 6 | 764.175 | 4.741 | 0.010 |
| i + Body Mass + Food av. + Non helpers + Tarsus length + TQ | 8 | 764.231 | 4.797 | 0.009 |
| i + Sex + Body Mass + Food av. + Tarsus length + TQ | 8 | 764.253 | 4.819 | 0.009 |
| i + Helpers + Food av. + Non helpers | 6 | 764.286 | 4.852 | 0.009 |
| i + Sex + Body Mass + Food av. + Non helpers | 7 | 764.287 | 4.853 | 0.009 |
| i + Body Mass + Helpers + Food av. + Tarsus length + TQ | 8 | 764.302 | 4.868 | 0.009 |
| i + Sex + Helpers + Food av. | 6 | 764.354 | 4.920 | 0.009 |
| i + TQ | 4 | 764.620 | 5.186 | 0.008 |
| i | 3 | 764.692 | 5.258 | 0.007 |
| i + Sex + Body Mass + Food av. + Tarsus length | 7 | 764.704 | 5.271 | 0.007 |
| i + Body Mass + Food av. + Non helpers + Tarsus length | 7 | 764.727 | 5.294 | 0.007 |
| i + Sex + Body Mass + Helpers + Food av. | 7 | 764.773 | 5.339 | 0.007 |
| i + Body Mass + Helpers + Food av. + Non helpers | 7 | 764.776 | 5.342 | 0.007 |
| i + Body Mass + Helpers + Food av. + Tarsus length | 7 | 765.165 | 5.731 | 0.006 |
| i + Helpers + Food av. + Non helpers + Tarsus length + TQ | 8 | 765.401 | 5.968 | 0.005 |

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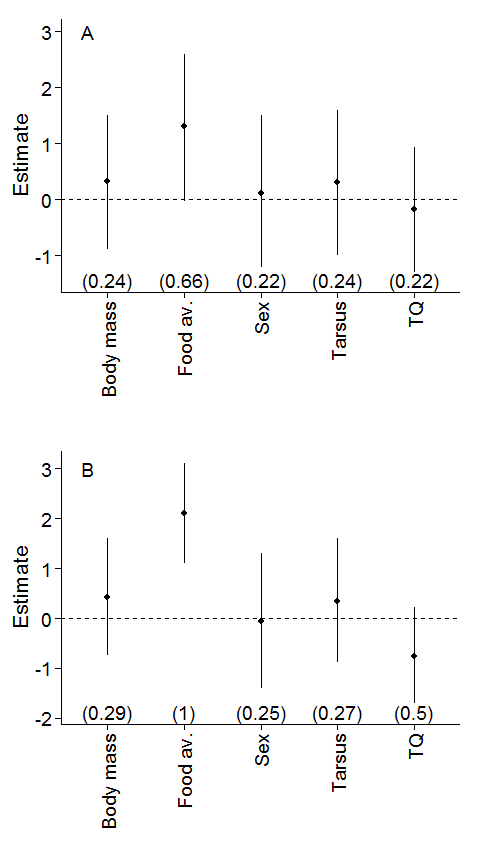
**Figure S1** Cross-sectional telomere length (mean s.e.) in relation to age in Seychelles warblers.

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**Figure S2** Longitudinal telomere loss (mean s.e.) in juvenile Seychelles warblers. Telomere loss a standardised and corrected value (see methods for details) based on rates of lost between the sampling event of birds as a juvnile, and the first available sampling as an adult. Values above zero indicate telomere shortening in early life.

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**Figure S3** Factors affecting telomere length in Seychelles warbler fledglings **(A)** and subadults **(B)**. Points and error bars represent model averaged estimates and 95% confidence intervals for all explanatory terms used in a linear model with telomere length as the response variable. Numbers in brackets are the relative importance of each term in the top model set (see main text for details; Food av. = annual food availability, TQ = territory quality).