### Supplementary information for Spurgin *et al.* "Spatiotemporal variation in lifelong telomere dynamics in a long-term ecological study"

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | df | AICc | Delta AICc | Weight |
| Sex (males) + Insect abundance + Log age + Tarsus | 10 | -849.56 | 0.00 | 0.12 |
| Sex (males) + Log age + Tarsus | 9 | -848.26 | 1.30 | 0.06 |
| Sex (males) + Group Size + Insect abundance + Log age + Tarsus | 11 | -848.15 | 1.40 | 0.06 |
| Sex (males) + Insect abundance + Log age + Tarsus + Territory quality | 11 | -847.92 | 1.63 | 0.05 |
| Helpers + Sex (males) + Insect abundance + Log age + Tarsus | 11 | -847.79 | 1.77 | 0.05 |
| Sex (males) + Body mass + Insect abundance + Log age + Tarsus | 11 | -847.71 | 1.85 | 0.05 |
| Sex (males) + Density + Insect abundance + Log age + Tarsus | 11 | -847.60 | 1.96 | 0.04 |
| Sex (males) + Group Size + Log age + Tarsus | 10 | -846.82 | 2.74 | 0.03 |
| Sex (males) + Group Size + Insect abundance + Log age + Tarsus + Territory quality | 12 | -846.60 | 2.95 | 0.03 |
| Sex (males) + Log age + Tarsus + Territory quality | 10 | -846.53 | 3.03 | 0.03 |
| Helpers + Sex (males) + Log age + Tarsus | 10 | -846.50 | 3.06 | 0.03 |
| Sex (males) + Body mass + Group Size + Insect abundance + Log age + Tarsus | 12 | -846.47 | 3.09 | 0.02 |
| Sex (males) + Body mass + Log age + Tarsus | 10 | -846.28 | 3.28 | 0.02 |
| Sex (males) + Density + Group Size + Insect abundance + Log age + Tarsus | 12 | -846.25 | 3.31 | 0.02 |
| Sex (males) + Density + Log age + Tarsus | 10 | -846.25 | 3.31 | 0.02 |
| Helpers + Sex (males) + Insect abundance + Log age + Tarsus + Territory quality | 12 | -846.15 | 3.41 | 0.02 |
| Sex (males) + Density + Insect abundance + Log age + Tarsus + Territory quality | 12 | -846.14 | 3.42 | 0.02 |
| Helpers + Sex (males) + Group Size + Insect abundance + Log age + Tarsus | 12 | -846.12 | 3.43 | 0.02 |
| Sex (males) + Body mass + Insect abundance + Log age + Tarsus + Territory quality | 12 | -846.12 | 3.44 | 0.02 |
| Helpers + Sex (males) + Body mass + Insect abundance + Log age + Tarsus | 12 | -845.98 | 3.58 | 0.02 |
| Helpers + Sex (males) + Density + Insect abundance + Log age + Tarsus | 12 | -845.86 | 3.70 | 0.02 |
| Sex (males) + Body mass + Density + Insect abundance + Log age + Tarsus | 12 | -845.73 | 3.83 | 0.02 |
| Sex (males) + Group Size + Log age + Tarsus + Territory quality | 11 | -845.17 | 4.39 | 0.01 |
| Insect abundance + Log age + Tarsus | 9 | -845.13 | 4.43 | 0.01 |
| Sex (males) + Body mass + Group Size + Insect abundance + Log age + Tarsus + Territory quality | 13 | -845.00 | 4.56 | 0.01 |
| Sex (males) + Density + Group Size + Insect abundance + Log age + Tarsus + Territory quality | 13 | -844.97 | 4.59 | 0.01 |
| Sex (males) + Body mass + Group Size + Log age + Tarsus | 11 | -844.93 | 4.63 | 0.01 |
| Sex (males) + Density + Group Size + Log age + Tarsus | 11 | -844.84 | 4.72 | 0.01 |
| Helpers + Sex (males) + Group Size + Log age + Tarsus | 11 | -844.80 | 4.76 | 0.01 |
| Helpers + Sex (males) + Log age + Tarsus + Territory quality | 11 | -844.77 | 4.79 | 0.01 |
| Sex (males) + Density + Log age + Tarsus + Territory quality | 11 | -844.59 | 4.97 | 0.01 |
| Helpers + Sex (males) + Group Size + Insect abundance + Log age + Tarsus + Territory quality | 13 | -844.57 | 4.99 | 0.01 |
| Sex (males) + Body mass + Log age + Tarsus + Territory quality | 11 | -844.56 | 5.00 | 0.01 |
| Sex (males) + Body mass + Density + Group Size + Insect abundance + Log age + Tarsus | 13 | -844.55 | 5.01 | 0.01 |
| Helpers + Sex (males) + Body mass + Log age + Tarsus | 11 | -844.54 | 5.02 | 0.01 |
| Helpers + Sex (males) + Density + Log age + Tarsus | 11 | -844.50 | 5.06 | 0.01 |
| Helpers + Sex (males) + Body mass + Group Size + Insect abundance + Log age + Tarsus | 13 | -844.43 | 5.12 | 0.01 |
| Log age + Tarsus | 8 | -844.42 | 5.14 | 0.01 |
| Helpers + Sex (males) + Density + Insect abundance + Log age + Tarsus + Territory quality | 13 | -844.41 | 5.15 | 0.01 |
| Helpers + Sex (males) + Body mass + Insect abundance + Log age + Tarsus + Territory quality | 13 | -844.39 | 5.17 | 0.01 |
| Sex (males) + Body mass + Density + Insect abundance + Log age + Tarsus + Territory quality | 13 | -844.30 | 5.25 | 0.01 |
| Sex (males) + Body mass + Density + Log age + Tarsus | 11 | -844.26 | 5.30 | 0.01 |
| Body mass + Insect abundance + Log age + Tarsus | 10 | -844.25 | 5.30 | 0.01 |
| Helpers + Sex (males) + Density + Group Size + Insect abundance + Log age + Tarsus | 13 | -844.22 | 5.33 | 0.01 |
| Helpers + Sex (males) + Body mass + Density + Insect abundance + Log age + Tarsus | 13 | -844.03 | 5.53 | 0.01 |
| Insect abundance + Log age + Tarsus + Territory quality | 10 | -843.68 | 5.87 | 0.01 |
| Group Size + Insect abundance + Log age + Tarsus | 10 | -843.56 | 6.00 | 0.01 |

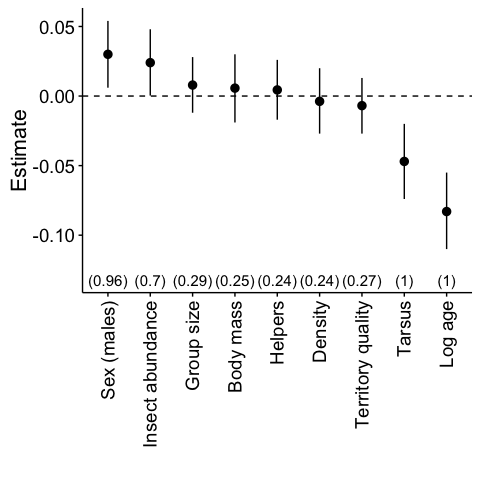
**Table S2** Full model of factors affecting RTL in Seychelles warblers, using longitudinal data.

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Estimate | LCI | UCI |
| (Intercept) | -0.037 | -0.058 | -0.016 |
| Age | 0.032 | -0.012 | 0.076 |
| Tarsus length | 0.047 | -0.012 | 0.106 |
| Number helpers | 0.021 | -0.037 | 0.078 |
| Group size | -0.018 | -0.072 | 0.036 |
| Sex (males) | -0.032 | -0.090 | 0.026 |
| Body mass | 0.009 | -0.044 | 0.062 |
| Insect abundance | -0.021 | -0.066 | 0.024 |
| Density | -0.042 | -0.091 | 0.008 |
| Territory quality | 0.003 | -0.045 | 0.052 |

**Table S3** Model selection table for analysis of factors affecting RTL in Seychelles warblers, using longitudinal data. Only models that remained in the top model set for model averaging (AICc 6 compared to the top model) are included here. TQ = territory quality.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | df | AICc | Delta AICc | Weight |
| Density + Log age | 5 | 10.32 | 0.00 | 0.03 |
| Density + Log age + Tarsus | 6 | 10.53 | 0.21 | 0.03 |
| Density + Tarsus | 5 | 11.63 | 1.31 | 0.02 |
| Body mass + Density + Log age | 6 | 11.69 | 1.37 | 0.02 |
| Sex (males) + Density + Log age + Tarsus | 7 | 11.75 | 1.43 | 0.02 |
| Density + Insect abundance + Log age + Tarsus | 7 | 11.88 | 1.56 | 0.02 |
| Density + Insect abundance + Log age | 6 | 11.93 | 1.61 | 0.02 |
| Log age + Tarsus | 5 | 12.02 | 1.70 | 0.01 |
| Log age | 4 | 12.03 | 1.71 | 0.01 |
| Helpers + Density + Log age | 6 | 12.20 | 1.88 | 0.01 |
| Density + Group size + Log age | 6 | 12.29 | 1.97 | 0.01 |
| Sex (males) + Density + Log age | 6 | 12.33 | 2.01 | 0.01 |
| Density + Log age + Territory quality | 6 | 12.35 | 2.03 | 0.01 |
| Sex (males) + Density + Tarsus | 6 | 12.43 | 2.11 | 0.01 |
| Density | 4 | 12.44 | 2.12 | 0.01 |
| Helpers + Density + Log age + Tarsus | 7 | 12.49 | 2.17 | 0.01 |
| Density + Group size + Log age + Tarsus | 7 | 12.52 | 2.20 | 0.01 |
| Body mass + Density + Log age + Tarsus | 7 | 12.57 | 2.24 | 0.01 |
| Density + Log age + Tarsus + Territory quality | 7 | 12.59 | 2.26 | 0.01 |
| Density + Insect abundance + Tarsus | 6 | 12.78 | 2.46 | 0.01 |
| Log age + Territory quality | 5 | 12.92 | 2.60 | 0.01 |
| Sex (males) + Density + Insect abundance + Log age + Tarsus | 8 | 13.04 | 2.72 | 0.01 |
| Sex (males) + Log age + Tarsus | 6 | 13.07 | 2.75 | 0.01 |
| Body mass + Density | 5 | 13.08 | 2.76 | 0.01 |
| Log age + Tarsus + Territory quality | 6 | 13.14 | 2.82 | 0.01 |
| Tarsus | 4 | 13.28 | 2.96 | 0.01 |
| Body mass + Density + Insect abundance + Log age | 7 | 13.29 | 2.96 | 0.01 |
| Density + Group size + Tarsus | 6 | 13.45 | 3.13 | 0.01 |
| Body mass + Log age | 5 | 13.46 | 3.14 | 0.01 |
| Sex (males) + Density + Insect abundance + Tarsus | 7 | 13.52 | 3.20 | 0.01 |
| Helpers + Body mass + Density + Log age | 7 | 13.54 | 3.21 | 0.01 |
| Body mass + Density + Tarsus | 6 | 13.56 | 3.24 | 0.01 |
| Helpers + Density + Tarsus | 6 | 13.60 | 3.28 | 0.01 |
| Sex (males) + Body mass + Density + Log age + Tarsus | 8 | 13.61 | 3.28 | 0.01 |
| Sex (males) + Body mass + Density + Log age | 7 | 13.65 | 3.33 | 0.01 |
| Density + Tarsus + Territory quality | 6 | 13.67 | 3.35 | 0.01 |
| Sex (males) + Density + Group size + Log age + Tarsus | 8 | 13.69 | 3.37 | 0.01 |
| Helpers + Sex (males) + Density + Log age + Tarsus | 8 | 13.72 | 3.39 | 0.01 |
| Body mass + Density + Log age + Territory quality | 7 | 13.73 | 3.41 | 0.01 |
| Body mass + Density + Group size + Log age | 7 | 13.73 | 3.41 | 0.01 |
| Group size + Log age | 5 | 13.78 | 3.45 | 0.01 |
| Helpers + Density + Insect abundance + Log age | 7 | 13.79 | 3.47 | 0.01 |
| Group size + Log age + Tarsus | 6 | 13.80 | 3.48 | 0.01 |
| Sex (males) + Density + Log age + Tarsus + Territory quality | 8 | 13.81 | 3.49 | 0.01 |
| Helpers + Density + Insect abundance + Log age + Tarsus | 8 | 13.82 | 3.50 | 0.01 |
| Helpers + Density + Group size + Log age | 7 | 13.85 | 3.52 | 0.01 |
| Sex (males) + Tarsus | 5 | 13.86 | 3.54 | 0.01 |
| Density + Group size + Insect abundance + Log age + Tarsus | 8 | 13.87 | 3.54 | 0.01 |
| Density + Group size + Insect abundance + Log age | 7 | 13.90 | 3.58 | 0.01 |
| Helpers + Log age | 5 | 13.91 | 3.59 | 0.01 |
| Density + Insect abundance + Log age + Tarsus + Territory quality | 8 | 13.92 | 3.60 | 0.01 |
| Body mass + Density + Insect abundance + Log age + Tarsus | 8 | 13.93 | 3.61 | 0.01 |
| Density + Insect abundance | 5 | 13.93 | 3.61 | 0.01 |
| Sex (males) + Density + Insect abundance + Log age | 7 | 13.94 | 3.62 | 0.01 |
| Density + Insect abundance + Log age + Territory quality | 7 | 13.94 | 3.62 | 0.01 |
| Helpers + Log age + Tarsus | 6 | 13.98 | 3.65 | 0.01 |
| Sex (males) + Body mass + Density + Tarsus | 7 | 14.00 | 3.68 | 0.01 |
| Insect abundance + Log age + Tarsus | 6 | 14.00 | 3.68 | 0.01 |
| Sex (males) + Log age | 5 | 14.04 | 3.72 | 0.01 |
| Body mass + Log age + Tarsus | 6 | 14.07 | 3.75 | 0.01 |
| Insect abundance + Log age | 5 | 14.07 | 3.75 | 0.01 |
| Sex (males) + Density + Group size + Tarsus | 7 | 14.17 | 3.85 | 0.01 |
| Density + Group size | 5 | 14.20 | 3.88 | 0.00 |
| Helpers + Sex (males) + Density + Log age | 7 | 14.23 | 3.91 | 0.00 |
| Helpers + Density + Group size + Log age + Tarsus | 8 | 14.24 | 3.92 | 0.00 |
| Helpers + Density + Log age + Territory quality | 7 | 14.25 | 3.92 | 0.00 |
| Sex (males) + Log age + Tarsus + Territory quality | 7 | 14.29 | 3.96 | 0.00 |
| Sex (males) + Density + Group size + Log age | 7 | 14.32 | 4.00 | 0.00 |
| Helpers + Density | 5 | 14.32 | 4.00 | 0.00 |
| Density + Group size + Log age + Territory quality | 7 | 14.32 | 4.00 | 0.00 |
| Body mass + Log age + Territory quality | 6 | 14.36 | 4.03 | 0.00 |
| Sex (males) + Density + Log age + Territory quality | 7 | 14.37 | 4.05 | 0.00 |
| Null model | 3 | 14.40 | 4.08 | 0.00 |
| Helpers + Sex (males) + Density + Tarsus | 7 | 14.41 | 4.09 | 0.00 |
| Sex (males) + Density | 5 | 14.42 | 4.10 | 0.00 |
| Sex (males) + Density + Tarsus + Territory quality | 7 | 14.48 | 4.15 | 0.00 |
| Density + Territory quality | 5 | 14.48 | 4.16 | 0.00 |
| Helpers + Body mass + Density + Log age + Tarsus | 8 | 14.52 | 4.20 | 0.00 |
| Helpers + Density + Log age + Tarsus + Territory quality | 8 | 14.55 | 4.23 | 0.00 |
| Tarsus + Territory quality | 5 | 14.56 | 4.24 | 0.00 |
| Body mass + Density + Insect abundance | 6 | 14.56 | 4.24 | 0.00 |
| Body mass + Density + Group size + Log age + Tarsus | 8 | 14.57 | 4.25 | 0.00 |
| Density + Group size + Log age + Tarsus + Territory quality | 8 | 14.58 | 4.26 | 0.00 |
| Density + Group size + Insect abundance + Tarsus | 7 | 14.60 | 4.28 | 0.00 |
| Body mass + Density + Log age + Tarsus + Territory quality | 8 | 14.63 | 4.31 | 0.00 |
| Group size + Log age + Territory quality | 6 | 14.70 | 4.38 | 0.00 |
| Helpers + Density + Insect abundance + Tarsus | 7 | 14.73 | 4.41 | 0.00 |
| Sex (males) + Group size + Log age + Tarsus | 7 | 14.75 | 4.43 | 0.00 |
| Body mass + Density + Insect abundance + Tarsus | 7 | 14.76 | 4.43 | 0.00 |
| Group size + Tarsus | 5 | 14.77 | 4.45 | 0.00 |
| Density + Insect abundance + Tarsus + Territory quality | 7 | 14.84 | 4.51 | 0.00 |
| Helpers + Log age + Territory quality | 6 | 14.85 | 4.53 | 0.00 |
| Insect abundance + Log age + Territory quality | 6 | 14.85 | 4.53 | 0.00 |
| Helpers + Body mass + Density | 6 | 14.91 | 4.59 | 0.00 |
| Sex (males) + Body mass + Density | 6 | 14.91 | 4.59 | 0.00 |
| Insect abundance + Log age + Tarsus + Territory quality | 7 | 14.93 | 4.61 | 0.00 |
| Sex (males) + Body mass + Density + Insect abundance + Log age + Tarsus | 9 | 14.94 | 4.62 | 0.00 |
| Group size + Log age + Tarsus + Territory quality | 7 | 14.94 | 4.62 | 0.00 |
| Sex (males) + Log age + Territory quality | 6 | 14.95 | 4.63 | 0.00 |
| Sex (males) + Density + Group size + Insect abundance + Log age + Tarsus | 9 | 14.97 | 4.65 | 0.00 |
| Sex (males) + Body mass + Log age + Tarsus | 7 | 14.98 | 4.65 | 0.00 |
| Helpers + Sex (males) + Density + Insect abundance + Log age + Tarsus | 9 | 14.99 | 4.67 | 0.00 |
| Helpers + Group size + Log age | 6 | 15.02 | 4.70 | 0.00 |
| Sex (males) + Insect abundance + Log age + Tarsus | 7 | 15.02 | 4.70 | 0.00 |
| Helpers + Density + Group size + Tarsus | 7 | 15.02 | 4.70 | 0.00 |
| Helpers + Sex (males) + Log age + Tarsus | 7 | 15.03 | 4.71 | 0.00 |
| Body mass + Density + Group size | 6 | 15.05 | 4.73 | 0.00 |
| Sex (males) + Density + Insect abundance + Log age + Tarsus + Territory quality | 9 | 15.10 | 4.77 | 0.00 |
| Body mass | 4 | 15.11 | 4.79 | 0.00 |
| Helpers + Body mass + Density + Insect abundance + Log age | 8 | 15.11 | 4.79 | 0.00 |
| Helpers + Log age + Tarsus + Territory quality | 7 | 15.12 | 4.80 | 0.00 |
| Body mass + Density + Territory quality | 6 | 15.13 | 4.80 | 0.00 |
| Sex (males) + Body mass + Density + Insect abundance + Tarsus | 8 | 15.16 | 4.84 | 0.00 |
| Body mass + Log age + Tarsus + Territory quality | 7 | 15.18 | 4.86 | 0.00 |
| Insect abundance + Tarsus | 5 | 15.19 | 4.87 | 0.00 |
| Sex (males) + Group size + Tarsus | 6 | 15.23 | 4.91 | 0.00 |
| Sex (males) + Tarsus + Territory quality | 6 | 15.24 | 4.92 | 0.00 |
| Helpers + Tarsus | 5 | 15.24 | 4.92 | 0.00 |
| Sex (males) + Density + Group size + Insect abundance + Tarsus | 8 | 15.25 | 4.93 | 0.00 |
| Body mass + Tarsus | 5 | 15.26 | 4.94 | 0.00 |
| Sex (males) + Body mass + Density + Insect abundance + Log age | 8 | 15.28 | 4.96 | 0.00 |
| Helpers + Group size + Log age + Tarsus | 7 | 15.28 | 4.96 | 0.00 |
| Helpers + Body mass + Log age | 6 | 15.30 | 4.98 | 0.00 |
| Body mass + Density + Insect abundance + Log age + Territory quality | 8 | 15.30 | 4.98 | 0.00 |
| Body mass + Density + Group size + Insect abundance + Log age | 8 | 15.33 | 5.01 | 0.00 |
| Helpers + Sex (males) + Density + Group size + Log age + Tarsus | 9 | 15.35 | 5.03 | 0.00 |
| Body mass + Group size + Log age | 6 | 15.35 | 5.03 | 0.00 |
| Helpers + Body mass + Density + Group size + Log age | 8 | 15.37 | 5.05 | 0.00 |
| Helpers + Density + Group size + Insect abundance + Log age | 8 | 15.39 | 5.07 | 0.00 |
| Sex (males) + Body mass + Log age | 6 | 15.42 | 5.10 | 0.00 |
| Territory quality | 4 | 15.45 | 5.13 | 0.00 |
| Body mass + Density + Group size + Tarsus | 7 | 15.45 | 5.13 | 0.00 |
| Helpers + Sex (males) + Density + Insect abundance + Tarsus | 8 | 15.48 | 5.15 | 0.00 |
| Helpers + Sex (males) + Body mass + Density + Log age | 8 | 15.48 | 5.16 | 0.00 |
| Helpers + Density + Group size | 6 | 15.49 | 5.16 | 0.00 |
| Body mass + Insect abundance + Log age | 6 | 15.50 | 5.18 | 0.00 |
| Density + Group size + Tarsus + Territory quality | 7 | 15.51 | 5.18 | 0.00 |
| Sex (males) + Body mass + Tarsus | 6 | 15.51 | 5.19 | 0.00 |
| Helpers + Body mass + Density + Tarsus | 7 | 15.51 | 5.19 | 0.00 |
| Helpers + Density + Group size + Insect abundance + Log age + Tarsus | 9 | 15.53 | 5.21 | 0.00 |
| Helpers + Sex (males) + Body mass + Density + Log age + Tarsus | 9 | 15.54 | 5.22 | 0.00 |
| Sex (males) + Density + Insect abundance + Tarsus + Territory quality | 8 | 15.58 | 5.26 | 0.00 |
| Helpers + Body mass + Density + Log age + Territory quality | 8 | 15.59 | 5.27 | 0.00 |
| Sex (males) + Body mass + Density + Group size + Log age + Tarsus | 9 | 15.61 | 5.29 | 0.00 |
| Body mass + Density + Tarsus + Territory quality | 7 | 15.61 | 5.29 | 0.00 |
| Helpers + Density + Tarsus + Territory quality | 7 | 15.64 | 5.32 | 0.00 |
| Helpers + Sex (males) + Density + Group size + Tarsus | 8 | 15.65 | 5.33 | 0.00 |
| Sex (males) + Body mass + Density + Log age + Tarsus + Territory quality | 9 | 15.68 | 5.35 | 0.00 |
| Density + Group size + Insect abundance | 6 | 15.69 | 5.37 | 0.00 |
| Sex (males) + Body mass + Density + Log age + Territory quality | 8 | 15.70 | 5.38 | 0.00 |
| Sex (males) + Body mass + Density + Group size + Log age | 8 | 15.70 | 5.38 | 0.00 |
| Sex (males) + Insect abundance + Tarsus | 6 | 15.74 | 5.42 | 0.00 |
| Sex (males) + Density + Group size + Log age + Tarsus + Territory quality | 9 | 15.76 | 5.44 | 0.00 |
| Group size + Insect abundance + Log age + Tarsus | 7 | 15.77 | 5.45 | 0.00 |
| Body mass + Density + Group size + Log age + Territory quality | 8 | 15.78 | 5.45 | 0.00 |
| Group size | 4 | 15.78 | 5.46 | 0.00 |
| Helpers + Sex (males) + Density + Log age + Tarsus + Territory quality | 9 | 15.79 | 5.47 | 0.00 |
| Helpers + Density + Insect abundance | 6 | 15.79 | 5.47 | 0.00 |
| Sex (males) + Group size + Log age | 6 | 15.81 | 5.48 | 0.00 |
| Group size + Insect abundance + Log age | 6 | 15.81 | 5.49 | 0.00 |
| Helpers + Sex (males) + Density + Insect abundance + Log age | 8 | 15.82 | 5.49 | 0.00 |
| Helpers + Density + Insect abundance + Log age + Territory quality | 8 | 15.82 | 5.50 | 0.00 |
| Helpers + Sex (males) + Tarsus | 6 | 15.83 | 5.51 | 0.00 |
| Body mass + Group size + Log age + Tarsus | 7 | 15.85 | 5.53 | 0.00 |
| Helpers + Body mass + Density + Insect abundance + Log age + Tarsus | 9 | 15.87 | 5.55 | 0.00 |
| Helpers + Density + Insect abundance + Log age + Tarsus + Territory quality | 9 | 15.88 | 5.56 | 0.00 |
| Sex (males) + Body mass + Density + Group size + Tarsus | 8 | 15.89 | 5.57 | 0.00 |
| Helpers + Density + Group size + Log age + Territory quality | 8 | 15.89 | 5.57 | 0.00 |
| Helpers + Sex (males) + Density + Group size + Log age | 8 | 15.90 | 5.58 | 0.00 |
| Sex (males) + Density + Insect abundance | 6 | 15.91 | 5.58 | 0.00 |
| Density + Group size + Insect abundance + Log age + Territory quality | 8 | 15.91 | 5.59 | 0.00 |
| Density + Group size + Insect abundance + Log age + Tarsus + Territory quality | 9 | 15.91 | 5.59 | 0.00 |
| Sex (males) + Density + Group size + Insect abundance + Log age | 8 | 15.93 | 5.60 | 0.00 |
| Helpers + Sex (males) + Body mass + Density + Tarsus | 8 | 15.93 | 5.61 | 0.00 |
| Helpers + Sex (males) + Log age | 6 | 15.93 | 5.61 | 0.00 |
| Body mass + Density + Group size + Insect abundance + Log age + Tarsus | 9 | 15.94 | 5.61 | 0.00 |
| Helpers + Insect abundance + Log age | 6 | 15.95 | 5.62 | 0.00 |
| Helpers + Insect abundance + Log age + Tarsus | 7 | 15.95 | 5.63 | 0.00 |
| Sex (males) + Density + Insect abundance + Log age + Territory quality | 8 | 15.96 | 5.63 | 0.00 |
| Density + Insect abundance + Territory quality | 6 | 15.97 | 5.65 | 0.00 |
| Body mass + Density + Insect abundance + Log age + Tarsus + Territory quality | 9 | 15.98 | 5.66 | 0.00 |
| Sex (males) + Group size + Log age + Tarsus + Territory quality | 8 | 16.00 | 5.68 | 0.00 |
| Helpers + Body mass + Log age + Tarsus | 7 | 16.02 | 5.70 | 0.00 |
| Sex (males) + Insect abundance + Log age + Tarsus + Territory quality | 8 | 16.04 | 5.72 | 0.00 |
| Body mass + Insect abundance + Log age + Tarsus | 7 | 16.06 | 5.73 | 0.00 |
| Sex (males) + Body mass + Density + Tarsus + Territory quality | 8 | 16.06 | 5.73 | 0.00 |
| Helpers + Group size + Tarsus | 6 | 16.06 | 5.74 | 0.00 |
| Group size + Tarsus + Territory quality | 6 | 16.08 | 5.76 | 0.00 |
| Sex (males) + Insect abundance + Log age | 6 | 16.09 | 5.76 | 0.00 |
| Helpers + Group size + Log age + Territory quality | 7 | 16.09 | 5.77 | 0.00 |
| Helpers + Density + Group size + Insect abundance + Tarsus | 8 | 16.10 | 5.78 | 0.00 |
| Body mass + Territory quality | 5 | 16.14 | 5.82 | 0.00 |
| Helpers + Sex (males) + Group size + Log age + Tarsus | 8 | 16.15 | 5.82 | 0.00 |
| Sex (males) + Body mass + Log age + Tarsus + Territory quality | 8 | 16.17 | 5.85 | 0.00 |
| Sex (males) + Density + Group size | 6 | 16.21 | 5.89 | 0.00 |
| Sex (males) + Density + Group size + Tarsus + Territory quality | 8 | 16.23 | 5.91 | 0.00 |
| Density + Group size + Territory quality | 6 | 16.24 | 5.92 | 0.00 |
| Helpers + Body mass + Log age + Territory quality | 7 | 16.25 | 5.93 | 0.00 |
| Insect abundance + Tarsus + Territory quality | 6 | 16.26 | 5.94 | 0.00 |
| Body mass + Group size + Log age + Territory quality | 7 | 16.27 | 5.95 | 0.00 |
| Helpers | 4 | 16.27 | 5.95 | 0.00 |
| Helpers + Sex (males) + Log age + Tarsus + Territory quality | 8 | 16.28 | 5.96 | 0.00 |
| Helpers + Sex (males) + Density + Log age + Territory quality | 8 | 16.28 | 5.96 | 0.00 |
| Body mass + Insect abundance + Log age + Territory quality | 7 | 16.28 | 5.96 | 0.00 |
| Helpers + Body mass + Density + Group size + Log age + Tarsus | 9 | 16.31 | 5.99 | 0.00 |
| Helpers + Density + Group size + Log age + Tarsus + Territory quality | 9 | 16.31 | 5.99 | 0.00 |
| Sex (males) + Body mass + Log age + Territory quality | 7 | 16.32 | 5.99 | 0.00 |
| Helpers + Sex (males) + Density | 6 | 16.32 | 6.00 | 0.00 |

**Figure S1** Model averaged estimates and 95% cofidence intervals for social and ecological environmental variables in relation to RTL in Seychelles warblers.



**Figure S2** Model averaged estimates and 95% cofidence intervals for social and ecological environmental variables in relation to RTL in Seychelles warblers, using longitudinal data.

