Supplementary Material

1. **Table**

**Table S1.** Estimated contrasts among specified factor combinations in the linear model B1 evaluating body condition for incubating adults (see Table 2). Computed via the *emmeans*() package in the R software (Lenth, 2023).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| contrast term 1 | contrast term 2 | estimate | SE | df | t | p |
| **Protected colony 1 F** | **Protected colony 2 F** | 0.4422 | 0.17 | 119 | 2.608 | **0.010** |
| Protected colony 1 F | Station colony 1 F | 0.034 | 0.166 | 119 | 0.205 | 0.838 |
| Protected colony 1 F | Station colony 2 F | 0.2179 | 0.17 | 119 | 1.285 | 0.201 |
| **Protected colony 2 F** | **Station colony 1 F** | -0.4081 | 0.166 | 119 | -2.455 | **0.016** |
| Protected colony 1 F | Station colony 2 F | -0.2243 | 0.17 | 119 | -1.323 | 0.188 |
| Station colony 1 F | Station colony 2 F | 0.1838 | 0.166 | 119 | 1.106 | 0.271 |
| Protected colony 1 M | Protected colony 2 M | -0.1529 | 0.133 | 119 | -1.149 | 0.253 |
| Protected colony 1 M | Station colony 1 M | 0.0887 | 0.135 | 119 | 0.658 | 0.512 |
| Protected colony 1 M | Station colony 2 M | -0.1287 | 0.13 | 119 | -0.992 | 0.323 |
| Protected colony 2 M | Station colony 1 M | 0.2417 | 0.137 | 119 | 1.769 | 0.080 |
| Protected colony 2 M | Station colony 2 M | 0.0242 | 0.132 | 119 | 0.184 | 0.854 |
| Station colony 1 M | Station colony 2 M | -0.2175 | 0.133 | 119 | -1.63 | 0.106 |

**Table S2**. Estimated contrasts among specified factor combinations (colonies) in the linear model C3 evaluating basal corticosterone for chicks (see Table 2). Computed via the *emmeans*() package in the R software (Lenth, 2023).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| contrast term 1 | contrast term 2 | estimate | SE | df | t | p |
| **Protected colony 1** | **Protected colony 2** | 1.667 | 0.643 | 47 | 2.592 | **0.013** |
| Protected colony 1 | Station colony 1 | -0.655 | 0.604 | 47 | -1.083 | 0.284 |
| Protected colony 1 | Station colony 2 | -0.103 | 0.616 | 47 | -0.168 | 0.867 |
| **Protected colony 2** | **Station colony 1** | -2.321 | 0.632 | 47 | -3.671 | **0.001** |
| **Protected colony 2** | **Station colony 2** | -1.77 | 0.643 | 47 | -2.753 | **0.008** |
| Station colony 1 | Station colony 2 | 0.551 | 0.604 | 47 | 0.912 | 0.366 |

**Table S3**. Estimated contrasts among specified factor combinations (interaction between colonies and sex) in the linear model D3 evaluating stress-induced corticosterone for chicks (see Table 2). Computed via the *emmeans*() package in the R software (Lenth, 2023).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| contrast term 1 | contrast term 2 | estimate | SE | df | t | p |
| Protected colony 1 F | Protected colony 2 F | 0.886 | 2.24 | 42 | 0.395 | 0.695 |
| Protected colony 1 F | Station colony 1 F | 0.483 | 2.05 | 42 | 0.236 | 0.815 |
| **Protected colony 1 F** | **Station colony 2 F** | -8.228 | 2.04 | 42 | -4.029 | **<0.001** |
| Protected colony 2 F | Station colony 1 F | -0.403 | 2.24 | 42 | -0.18 | 0.858 |
| **Protected colony 2 F** | **Station colony 2 F** | -9.115 | 2.22 | 42 | -4.111 | **<0.001** |
| **Station colony 1 F** | **Station colony 2** **F** | -8.711 | 2.01 | 42 | -4.325 | **<0.001** |
| Protected colony 1 M | Protected colony 2 M | -1.858 | 2.24 | 42 | -0.83 | 0.411 |
| **Protected colony 1 M** | **Station colony 1 M** | -5.825 | 2.15 | 42 | -2.707 | **0.010** |
| Protected colony 1 M | Station colony 2 M | -3.341 | 2.42 | 42 | -1.382 | 0.174 |
| Protected colony 2 M | Station colony 1 M | -3.967 | 2.13 | 42 | -1.862 | 0.070 |
| Protected colony 2 M | Station colony 2 M | -1.483 | 2.34 | 42 | -0.633 | 0.530 |
| Station colony 1M | Station colony 2 M | 2.484 | 2.27 | 42 | 1.093 | 0.281 |

1. **Figure**



**Figure S1**. Predicted flipper length in relation to sex for adults and chicks (predicted values means ± SE).