**Supplemental Results**

**Table 1S.** Supplemental analysis of field specimens.

|  |  |  |
| --- | --- | --- |
| A: Anova of standard length of field specimens |  |  |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Population[Drainage] | 5 | 0.52 | 1.45 | 0.2067 |
| Drainage | 3 | 1.3 | 6.03 | 0.0006 |
| Error | 195 | 14.05 | 0.072 |   |
|  |  |  |  |  |
| B: Anova of Absolute Eye Size of field specimens |  |  |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Population[Drainage] | 5 | 74.4 | 1.49 | 0.1941 |
| Drainage | 3 | 108.7 | 3.63 | 0.0139 |
| Error | 195 | 1946 | 9.98 |   |
|  |  |  |  |  |
| C: Ancova of Absolute Eye Size with Standard Length |  |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Standard Length (SL) | 1 | 9.125 | 702 | <0.0001 |
| Population[Drainage] | 6 | 1.098 | 14.1 | <0.0001 |
| Drainage | 2 | 0.731 | 28.1 | <0.0001 |
| SL\*Population\*[Drainage] | 6 | 0.0424 | 0.544 | 0.774 |
| Drainage\*SL | 2 | 0.0292 | 1.12 | 0.327 |
| Error | 186 | 2.42 | 0.013 |   |
|  |  |  |  |  |
| D: Anova of Relative Eye Size (Presented in main manuscript) |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Drainage | 3 | 1.51 | 38.72 | <0.0001 |
| Population[Drainage] | 5 | 0.63 | 9.71 | <0.0001 |
| Error | 195 | 2.53 |   |   |

**Table 2S.** Supplemental Analysis of Laboratory Cross Specimens.

|  |  |  |  |
| --- | --- | --- | --- |
| A: Anova of standard length |  |  |  |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Parent | 4 | 1339.7946 | 96.1037 | <0.0001 |
| Rearing Environment (RE) | 1 | 11.6012 | 3.3286 | 0.0691 |
| RE\*Parent | 4 | 592.1122 | 42.4723 | <0.0001 |
| Error | 301 | 1049 |   |   |
|  |  |  |  |  |
| B: Anova of absolute eye size |  |  |  |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| Parent | 4 | 4.93 | 65.26 | <0.0001 |
| Rearing Environment (RE) | 1 | 0.01 | 0.77 | 0.38 |
| RE\*Parent | 4 | 1.68 | 22.20 | <0.0001 |
| Error | 301 | 5.68 |   |   |
|  |  |  |  |  |
| C: Reduced analysis of covariance of absolute eye size with standard length as a covariate. Interactions with fixed effects are dropped |
| **Source** | **DF** | **SS** | **F Ratio** | **Prob > F** |
| SL | 1 | 3.90 | 655.05 | <0.0001 |
| Parent | 4 | 0.36 | 14.96 | <0.0001 |
| Rearing Environment (RE) | 1 | 0.11 | 17.92 | <0.0001 |
| Parent\*RE | 4 | 0.05 | 2.14 | 0.076 |
| Error | 300 | 1.78 |   |   |
|  |  |  |  |  |
| D: Full analysis of covariance on absolute eye size with standard length as a covariate. All interactions are included. |
| **Source** | **DF** | **SS** | **F** | **Prob > F** |
| SL | 1 | 2.06 | 366.25 | <0.0001 |
| Parent | 4 | 0.31 | 13.60 | <0.0001 |
| Rearing Environment (RE) | 1 | 0.00 | 0.21 | 0.649 |
| Parent\*RE | 4 | 0.07 | 2.92 | 0.022 |
| Parent\*SL | 4 | 0.06 | 2.62 | 0.035 |
| RE\*SL | 1 | 0.00 | 0.83 | 0.363 |
| Parent\*RE\*SL | 4 | 0.05 | 2.43 | 0.048 |
| Error | 291 | 1.64 |   |   |
|  |  |  |  |  |
| E: Mixed model on relative eye size with parent pair and the interaction between parent pair and rearing environment treated as a random effect (presented in the main manuscript) |
| **Source** | **Num DF** | **Den Def** | **F** | **Prob > F** |
| Rearing Environment (RE) | 1 | 3.93 | 10.58 | 0.0321 |



**Fig. 1S.** Linear relationship between standard length and absolute eye size from field samples.



**Fig. 2S.** Linear relationship between standard length and absolute eye size from field samples.