**Appendix S1 - Full model results**

Appendix to Diaz, R. M. and Ernest, S. K. M., “Maintenance of community function through compensation breaks down over time in a desert rodent community” for review at *Ecology.* This document contains tables with the coefficients, estimates, and contrasts from each of the analyses referenced in the main text. For complete data and code to replicate these analyses, see the archives at <https://doi.org/10.5281/zenodo.5544362> and <https://doi.org/10.5281/zenodo.5539881>.

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# Compensation & total energy use

## Compensation

Call: gls(smgran\_comp ~ oera, correlation = corCAR1(form = ~ period), data = compensation)

### Table S1. Coefficients from GLS for compensation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Value | Std.Error | t-value | p-value |
| (Intercept) | 0.3185409 | 0.0274749 | 11.5938657 | 0.0000000 |
| oera.L | 0.0209564 | 0.0488961 | 0.4285901 | 0.6684937 |
| oera.Q | -0.2815324 | 0.0446748 | -6.3018205 | 0.0000000 |

### 

### Table S2. Estimates from GLS for compensation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | emmean | SE | df | lower.CL | upper.CL |
| a\_pre\_pb | 0.1887873 | 0.0484923 | 65.54814 | 0.0919569 | 0.2856178 |
| b\_pre\_reorg | 0.5484112 | 0.0432238 | 70.42672 | 0.4622133 | 0.6346090 |
| c\_post\_reorg | 0.2184241 | 0.0493101 | 69.66681 | 0.1200700 | 0.3167783 |

### 

### Table S3. Contrasts from GLS for compensation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | t.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | -0.3596238 | 0.0644233 | 70.46124 | -5.5822045 | 0.0000012 |
| a\_pre\_pb - c\_post\_reorg | -0.0296368 | 0.0691495 | 67.68957 | -0.4285901 | 0.9038589 |
| b\_pre\_reorg - c\_post\_reorg | 0.3299870 | 0.0650229 | 72.95450 | 5.0749352 | 0.0000085 |

## 

## Total energy use

Call: gls(total\_e\_rat ~ oera, correlation = corCAR1(form = ~ period), data = energy\_ratio)

### Table S4. Coefficients from GLS on total energy ratio

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Value | Std.Error | t-value | p-value |
| (Intercept) | 0.4804768 | 0.0263030 | 18.267021 | 0.0000000 |
| oera.L | 0.1178169 | 0.0463516 | 2.541812 | 0.0114727 |
| oera.Q | -0.2488846 | 0.0416891 | -5.970013 | 0.0000000 |

### Table S5. Estimates from GLS on total energy ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | emmean | SE | df | lower.CL | upper.CL |
| a\_pre\_pb | 0.2955610 | 0.0461672 | 36.61089 | 0.2019837 | 0.3891382 |
| b\_pre\_reorg | 0.6836903 | 0.0407429 | 38.96128 | 0.6012774 | 0.7661031 |
| c\_post\_reorg | 0.4621793 | 0.0465896 | 38.08195 | 0.3678702 | 0.5564884 |

### 

### Table S6. Contrasts from GLS on total energy ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | t.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | -0.3881293 | 0.0605211 | 40.90187 | -6.413128 | 0.0000003 |
| a\_pre\_pb - c\_post\_reorg | -0.1666183 | 0.0655510 | 37.54898 | -2.541812 | 0.0396340 |
| b\_pre\_reorg - c\_post\_reorg | 0.2215110 | 0.0608245 | 41.85824 | 3.641807 | 0.0020937 |

# 

# Community composition

## Kangaroo rat proportional energy use

Call: glm(dipo\_prop ~ oera, family = quasibinomial(), data= dipo\_c\_dat)

### Table S7. Coefficients from GLM on Dipodomys energy use.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | t value | Pr(>|t|) |
| (Intercept) | 1.4032480 | 0.0594085 | 23.620308 | 0 |
| oera.L | -1.1000833 | 0.1134950 | -9.692789 | 0 |
| oera.Q | 0.5855493 | 0.0910776 | 6.429125 | 0 |

### 

### Table S8. Estimates from GLM on Dipodomys energy use.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| oera | prob | SE | df | asymp.LCL | asymp.UCL |
| a\_pre\_pb | 0.9183528 | 0.0101357 | Inf | 0.8984872 | 0.9382184 |
| b\_pre\_reorg | 0.7160901 | 0.0157507 | Inf | 0.6852192 | 0.7469610 |
| c\_post\_reorg | 0.7035835 | 0.0180485 | Inf | 0.6682091 | 0.7389579 |

### 

### Table S9. Contrasts from GLM on Dipodomys energy use.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| contrast | estimate | SE | df | z.ratio | p.value |
| a\_pre\_pb - b\_pre\_reorg | 0.2022627 | 0.0187302 | Inf | 10.7987757 | 0.0000000 |
| a\_pre\_pb - c\_post\_reorg | 0.2147693 | 0.0206998 | Inf | 10.3754389 | 0.0000000 |
| b\_pre\_reorg - c\_post\_reorg | 0.0125066 | 0.0239548 | Inf | 0.5220892 | 0.8605416 |

## 

## C. baileyi proportional energy use

Call: glm(pb\_prop ~ oera \* oplottype, family = quasibinomial(), data= pb\_nozero)

### Table S10. Coefficients from GLM on C. baileyi energy use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | t value | Pr(>|t|) |
| (Intercept) | -2.0044026 | 0.1600536 | -12.523322 | 0.0000000 |
| oera.L | -2.0922433 | 0.2263500 | -9.243401 | 0.0000000 |
| oplottype.L | 2.7474318 | 0.2263500 | 12.137983 | 0.0000000 |
| oera.L:oplottype.L | 0.8986645 | 0.3201072 | 2.807386 | 0.0052111 |

### 

### Table S11. Estimates from GLM on C. baileyi energy use

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| oera | oplottype | prob | SE | df | asymp.LCL | asymp.UCL |
| b\_pre\_reorg | CC | 0.1172888 | 0.0094009 | Inf | 0.0988634 | 0.1357142 |
| c\_post\_reorg | CC | 0.0027984 | 0.0017460 | Inf | -0.0006237 | 0.0062206 |
| b\_pre\_reorg | EE | 0.7248069 | 0.0130485 | Inf | 0.6992323 | 0.7503815 |
| c\_post\_reorg | EE | 0.2512829 | 0.0144098 | Inf | 0.2230401 | 0.2795256 |

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### Table S12. Contrasts from GLM on C. baileyi energy use.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| contrast | oplottype | estimate | SE | df | z.ratio | p.value |
| b\_pre\_reorg - c\_post\_reorg | CC | 0.1144904 | 0.0095617 | Inf | 11.97390 | 0 |
| b\_pre\_reorg - c\_post\_reorg | EE | 0.4735241 | 0.0194398 | Inf | 24.35843 | 0 |