

Supplemental Table S3. ANCOVA model results for analysis with transformed response variables. Linear mixed model analysis of relationships between: 1) k_s vs. predawn-Psi (Ψ_{PD}), 2) midday leaf $\Delta\Psi$ vs. Ψ_{PD} , 3) midday J_S vs. Ψ_{PD} , and 4) midday J_S vs. midday $\Delta\Psi$. *Significant differences for ambient treatments indicate that intercepts and slopes are significantly different from zero. ^aSignificant differences for irrigation and drought treatment indicate a significant difference from ambient treatment model estimates for a specific parameter. Significant differences at a threshold value of $p \leq 0.05$ are indicated in bold text.

| Species | Treatment | Transformation Type | Predictor Variable (x) | Response Variable (y) | Intercept-Est. & (SE) | Slope-Est. & (SE) | Intercept Pr > t & t-value | Slope Pr > t & t-value |
|---------|------------|---------------------|------------------------|-----------------------|-----------------------|-------------------|--|--|
| Piñon | Irrigation | ln(y+1) | Ψ_{PD} | k_s | 0.944 (0.063) | 0.294 (0.043) | p=0.0086^a (2.63) | p=0.0297^a (2.18) |
| Piñon | Ambient | ln(y+1) | Ψ_{PD} | k_s | 0.778 (0.045) | 0.201 (0.028) | p<0.0001* (17.3) | p<0.0001* (7.14) |
| Piñon | Drought | ln(y+1) | Ψ_{PD} | k_s | 0.472 (0.098) | 0.119 (0.056) | p=0.0019^a (-3.12) | p=0.1388 (-1.48) |
| Juniper | Irrigation | ln(y+1) | Ψ_{PD} | k_s | 0.716 (0.058) | 0.121 (0.012) | p=0.0481^a (2.01) | p=0.0003^a (3.66) |
| Juniper | Ambient | ln(y+1) | Ψ_{PD} | k_s | 0.599 (0.041) | 0.076 (0.007) | p<0.0001* (14.5) | p<0.0001* (10.3) |
| Juniper | Drought | ln(y+1) | Ψ_{PD} | k_s | 0.408 (0.058) | 0.055 (0.012) | p=0.0012^a (-3.32) | p=0.0776 (-1.77) |
| Piñon | Irrigation | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 1.085 (0.037) | 0.343 (0.022) | p=0.5127 (0.65) | p=0.6250 (0.49) |
| Piñon | Ambient | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 1.061 (0.027) | 0.333 (0.015) | p<0.0001* (39.0) | p<0.0001* (22.7) |
| Piñon | Drought | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 0.978 (0.058) | 0.270 (0.030) | p=0.1560 (-1.42) | p=0.0355^a (-2.10) |
| Juniper | Irrigation | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 0.939 (0.026) | 0.152 (0.009) | p=0.0157^a (2.43) | p<0.0001^a (4.45) |
| Juniper | Ambient | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 0.877 (0.018) | 0.114 (0.005) | p<0.0001* (48.3) | p<0.0001* (22.3) |
| Juniper | Drought | ln(y+1) | Ψ_{PD} | $\Delta\Psi$ | 0.839 (0.027) | 0.105 (0.008) | p=0.1668 (-1.39) | p=0.2192 (-1.23) |
| Piñon | Irrigation | sqrt(y) | Ψ_{PD} | midday J_S | 5.273 (0.219) | 1.355 (0.096) | p=0.0336^a (2.14) | p=0.1984 (1.29) |
| Piñon | Ambient | sqrt(y) | Ψ_{PD} | midday J_S | 4.805 (0.163) | 1.232 (0.068) | p<0.0001* (29.5) | p<0.0001* (18.1) |
| Piñon | Drought | sqrt(y) | Ψ_{PD} | midday J_S | 3.281 (0.335) | 0.706 (0.135) | p<0.0001^a (-4.56) | p=0.0001^a (-3.89) |
| Juniper | Irrigation | sqrt(y) | Ψ_{PD} | midday J_S | 4.557 (0.243) | 0.677 (0.032) | p=0.0014^a (3.31) | p<0.0001^a (9.84) |
| Juniper | Ambient | sqrt(y) | Ψ_{PD} | midday J_S | 3.751 (0.174) | 0.358 (0.020) | p<0.0001* (21.6) | p<0.0001* (17.8) |
| Juniper | Drought | sqrt(y) | Ψ_{PD} | midday J_S | 2.573 (0.235) | 0.205 (0.031) | p<0.0001^a (-5.01) | p<0.0001^a (-4.94) |
| Piñon | Irrigation | sqrt(y) | $\Delta\Psi$ | midday J_S | 1.978 (0.196) | 1.586 (0.131) | p=0.0078^a (2.73) | p=0.2615 (-1.12) |
| Piñon | Ambient | sqrt(y) | $\Delta\Psi$ | midday J_S | 1.444 (0.132) | 1.733 (0.089) | p<0.0001* (10.9) | p<0.0001* (19.5) |
| Piñon | Drought | sqrt(y) | $\Delta\Psi$ | midday J_S | 1.158 (0.238) | 1.075 (0.201) | p=0.2327 (-1.20) | p=0.0011^a (-3.27) |
| Juniper | Irrigation | sqrt(y) | $\Delta\Psi$ | midday J_S | 2.200 (0.266) | 1.134 (0.103) | p=0.7709 (0.29) | p=0.0008^a (3.36) |
| Juniper | Ambient | sqrt(y) | $\Delta\Psi$ | midday J_S | 2.123 (0.1871) | 0.787 (0.069) | p<0.0001* (11.4) | p<0.0001* (11.3) |
| Juniper | Drought | sqrt(y) | $\Delta\Psi$ | midday J_S | 1.531 (0.250) | 0.544 (0.120) | p=0.0202^a (-2.37) | p=0.0426^a (-2.03) |