**Supplementary Tables**

**Table S1.** Results of linear regression on plant fitness as a function of species evenness examined in *I*. *purpurea* grown in control treatment (*i.e.,* absence of competition). Species evenness, root architecture, their two-way interaction, and Block were included in the final modelǂ as fixed main effects. Linear regression coefficient slopes (𝛣) are reported with ± 1 standard error. P < 0.05 \*; P <0.01 \*\*; P <0.001\*\*\*; P =0.09 ^

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term** | ***b*** | **SE** | ***t*-statistic** | ***p*-value** |
| (Intercept) | 0.353 | 0.2 | 1.761 | 0.086 |
| *Sp.* evenness | -0.103 | 0.1 | -1.033 | 0.308 |
| Root architecture | -0.059 | 0.07 | -0.841 | 0.405 |
| Block | 0.189 | 0.069 | 2.747 | 0.009\*\* |
| *Sp.* Evenness × root architecture | 0.03 | 0.146 | 0.206 | 0.838 |

ǂModel: Relative fitness = *B*0(Species evenness) + *B*1(Root architecture) +*B*2(Block)

**Table S2.** Results of linear regression on plant fitness as a function of species richness examined in *I*. *purpurea* grown in control treatment (*i.e.,* absence of competition). Species richness, root architecture, their two-way interaction, and Block were included in the final modelǂ as fixed main effects. Linear regression coefficient slopes (𝛣) are reported with ± 1 standard error. P < 0.05 \*; P <0.01 \*\*; P <0.001\*\*\*; P =0.09 ^

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term** | ***b*** | **SE** | ***t*-statistic** | ***p*-value** |
| (Intercept) | 0.34 | 0.2 | 1.7 | 0.097 |
| *Sp.* richness | 0.1 | 0.096 | 1.041 | 0.304 |
| PC2 | -0.059 | 0.075 | -0.789 | 0.435 |
| Block | 0.195 | 0.069 | 2.823 | 0.008\*\* |
| *Sp.* richness × root architecture | 0.002 | 0.106 | 0.021 | 0.984 |

ǂModel: Relative fitness = *B*0(Species richness) + *B*1(Root architecture) +*B*2(Block)

**Table S3.** Results of linear regression on plant fitness as a function of Inverse Simpson Diversiy examined in *I*. *purpurea* grown in control treatment (*i.e.,* absence of competition). Inverse Simpson Diversiy, root architecture, their two-way interaction, and Block were included in the final modelǂ as fixed main effects. Linear regression coefficient slopes (𝛣) are reported with ± 1 standard error. P < 0.05 \*; P <0.01 \*\*; P <0.001\*\*\*; P =0.09 ^

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term** | ***b*** | **SE** | ***t*-statistic** | ***p*-value** |
| (Intercept) | 0.367 | 0.201 | 1.827 | 0.076 |
| Inverse Simpson Diversity | 0.061 | 0.141 | 0.433 | 0.668 |
| Root architecture | -0.033 | 0.084 | -0.396 | 0.694 |
| Block | 0.196 | 0.07 | 2.784 | 0.008\*\* |
| Inverse Simpson Diversity × Root architecture | 0.039 | 0.11 | 0.359 | 0.722 |

ǂModel: Relative fitness = *B*0(Species Inverse Simpson Diversity) + *B*1(Root architecture) +*B*2(Block)