|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SPIRIFERINIDA** | **Wor** | **Cap** | **Wuc** | **Cha** | **E.Tri** | **Ani** | **Lad** | **Car** | **Nor** | **Rha** | **E.Jur** |
| **Wordian** |  | 1.000 | 1.000 | 0.878 | 0.376 | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** |
| **Capitanian** | 1.000 |  | 0.999 | 0.879 | 0.389 | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** | **0.000** |
| **Wuchiapingian** | 1.000 | 1.000 |  | 0.981 | 0.592 | **0.000** | **0.002** | **0.001** | **0.003** | **0.001** | **0.000** |
| **Changhsingian** | 1.000 | 1.000 | 1.000 |  | 0.668 | **0.000** | **0.006** | **0.004** | **0.035** | **0.009** | **0.006** |
| **Early Triassic** | 1.000 | 1.000 | 1.000 | 1.000 |  | 0.570 | 0.744 | 0.777 | 0.746 | 0.347 | 0.083 |
| **Anisian** | **0.003** | **0.003** | **0.003** | **0.011** | 1.000 |  | 0.840 | 0.421 | **0.028** | **0.015** | **0.002** |
| **Ladinian** | **0.005** | **0.003** | 0.115 | 0.344 | 1.000 | 1.000 |  | 0.817 | 0.293 | 0.297 | **0.010** |
| **Carnian** | **0.003** | **0.003** | **0.038** | 0.223 | 1.000 | 1.000 | 1.000 |  | 0.840 | 0.089 | **0.020** |
| **Norian** | **0.003** | **0.005** | 0.187 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |  | 0.224 | 0.196 |
| **Rhaetian** | **0.005** | **0.003** | 0.055 | 0.452 | 1.000 | 0.850 | 1.000 | 1.000 | 1.000 |  | 0.146 |
| **Early Jurassic** | **0.003** | **0.003** | **0.021** | 0.352 | 1.000 | 0.118 | 0.525 | 1.000 | 1.000 | 1.000 |  |

Supplementary Table 2. PERMANOVA results comparing the distribution of spiriferinid taxa in ecomorphospace between the eleven time bins. Numbers above the diagonal are uncorrected *p*-values, those below are Bonferroni corrected. Bold values (*p*-values < 0.05) indicate significant differences in distribution between time bins.