|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |   |   | **Pseudo-*F*** | **R2** | ***P-value*** |   |
|  | ***Region*** |  |  |  |  |
|  |  | Andes | 1.21 | 0.48 | 0.042 |  |
|  |  | Brazil | 1.32 | 0.30 | 0.222 |  |
|  |  | Eastern North America | 9.44 | 0.72 | 0.001 |  |
|  |  | Norway | 21.06 | 0.90 | 0.001 |  |
|  |  | Pacific Northwest | 9.60 | 0.72 | 0.001 |  |
|  |  | Russia | 1.73 | 0.69 | 0.018 |  |
|  |  | Yunnan/Sichuan | 14.66 | 0.72 | 0.001 |  |
|  |  |  |  |  |  |  |
|  |   |   |   |   |   |  |
|  | ***Biome*** |  |  |  |  |
|  |  | Boreal | 21.33 | 0.83 | <0.001 |  |
|  |  | Tropical | 3.89 | 0.52 | <0.001 |  |
|  |  | Temperate | 4.84 | 0.70 | <0.001 |  |
|  |  | Oceanic | 5.06 | 0.70 | <0.001 |  |
|   |   |   |   |   |   |   |

**Supplementary Table S2.** Permutational MANOVA confirming the importance of the mycobiont species in predicting the photobiont identity, within biogeographical units (i.e., regions and biomes).