Supplementary material 1. Pearson’s coefficients correlation between paired variables in samples from Orentano (OR) (above) and Mt. Gordon (MG) (below). Bold values are statistically significant (\*P <0.05; \*\*P <0.01; two-tailed test).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **(OR)** | **C** | **N** | **δ13C** | **pH** | **ash** | **AC** | **carboxyl** | **CO3** | **R50** |
| **C** |  | **0.555\*\*** | -0.144 | **-0.780\*\*** | **-0.891\*\*** | **0.932\*\*** | **-0.930\*\*** | **-0.728\*** | **0.737\*** |
| **N** | **0.555\*\*** |  | -0.259 | **-0.681\*** | **-0.453\*** | 0.564 | -0.684 | -0.132 | 0.194 |
| **δ13C** | -0.144 | -0.259 |  | -0.130 | 0.263 | -0.038 | 0.255 | -0.253 | 0.345 |
| **pH** | **-0.780\*\*** | **-0.681\*** | -0.130 |  | **0.811\*\*** | **-0.826\*** | **0.777\*** | 0.490 | **-0.732\*** |
| **ash** | **-0.891\*\*** | **-0.453\*** | 0.263 | **0.811\*\*** |  | **-0.979\*\*** | **0.931\*\*** | **0.765\*** | **-0.783\*** |
| **AC** | **0.932\*\*** | 0.564 | -0.038 | **-0.826\*** | **-0.979\*\*** |  | **-0.957\*\*** | **-0.837\*\*** | 0.782\* |
| **carboxyl** | **-0.930\*\*** | -0.684 | 0.255 | **0.777\*** | **0.931\*\*** | **-0.957\*\*** |  | **0.748\*** | -0.621 |
| **CO3** | **-0.728\*** | -0.132 | -0.253 | 0.490 | **0.765\*** | **-0.837\*\*** | **0.748\*** |  | **-0.801\*** |
| **R50** | **0.737\*** | 0.194 | 0.345 | **-0.732\*** | **-0.783\*** | **0.782\*** | -0.621 | **-0.801\*** |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **(MG)** | **C** | **N** | **δ13C** | **pH** | **ash** | **AC** | **carboxyl** | **R50** |
| **C** |  | **0.808\*\*** | -0.037 | **-0.655\*** | **-0.851\*\*** | 0.496 | **-0.838\*\*** | **0.797\*** |
| **N** | **0.808\*\*** |  | 0.029 | -0.491 | **-0.693\*\*** | 0.208 | -0.534 | 0.616 |
| **δ13C** | -0.037 | 0.029 |  | 0.276 | -0.040 | -0.172 | 0.517 | -0.108 |
| **pH** | **-0.655\*** | -0.491 | 0.276 |  | 0.411 | -0.693 | **0.743\*** | -0.427 |
| **ash** | **-0.851\*\*** | **-0.693\*\*** | -0.040 | 0.411 |  | -0.658 | **0.864\*\*** | **-0.980\*\*** |
| **AC** | 0.496 | 0.208 | -0.172 | -0.693 | -0.658 |  | **-0.722\*** | 0.578 |
| **carboxyl** | **-0.838\*\*** | -0.534 | 0.517 | **0.743\*** | **0.864\*\*** | **-0.722\*** |  | **-0.779\*** |
| **R50** | **0.797\*** | 0.616 | -0.108 | -0.427 | **-0.980\*\*** | 0.578 | **-0.779\*** |  |