|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species 1** | **Species 2** | **sp1**  **\_inc** | **sp2**  **\_inc** | **obs**  **\_cooccur** | **prob**  **\_cooccur** | **exp**  **\_cooccur** | **p\_lt** | **p\_gt** | **Species 1 Name** | **Species 2 Name** | **Association** | **Difference** |
| 2 | 7 | 7 | 4 | 0 | 0.194 | 2.300 | 0.010 | 1.000 | *Cloudina* | *Pteridinium* | Negative | 0.990 |
| 7 | 8 | 4 | 3 | 3 | 0.083 | 1.000 | 1.000 | 0.018 | *Pteridinium* | *Rangea* | Positive | 0.982 |
| 2 | 8 | 7 | 3 | 0 | 0.146 | 1.800 | 0.045 | 1.000 | *Cloudina* | *Rangea* | Negative | 0.955 |

Table S10: Co-occurrence analysis for the Nama dataset showing only significant associations.

Sp1\_inc is the number of sites which have taxa 1. Obc\_cooccur is the observed number of sites with both species. Prob\_cooccur is the probability both species occur at a site. Exp\_cooccur is the expected number of sites having both taxa. P\_Lt probably that the two taxa would co-occur at a frequency less than observed and P\_gt is the probability that the two taxa would co-occur at a frequency greater than observed. Difference is the difference between observed and expected probabilities. Where difference > 0.95 the association is considered significant.