Tab. S1. Sequence percentage identity of MOTUs taxonomically assigned through blastn against GenBank (uncultered/ environmental sample sequences excluded). 19 MOTUs were assigned to Rhizobiales at a 97% similarity threshold (65 MOTUs at ≥90%). A total of 80 MOTUs were identified to genus level.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Order** | **Genus** | **100%** | **99%** | **98%** | **97%** | **96%** | **95%** | **90-94%** |
| **Rhizobiales** | Bradyrhizobium | **1** |  |  | **1** | **2** | **4** | **28** |
| Methylocella |  | **1** |  |  |  |  |  |
| Methyloferula |  |  | **3** |  |  | **1** | **1** |
| Beijerinckiaceae\* |  |  |  | **1** | **1** |  |  |
| Methylocapsa |  |  |  |  | **2** | **1** | **1** |
| Rhodomicrobium |  |  |  |  |  | **1** |  |
| Methylococcus |  |  |  |  |  |  | **1** |
| Methylobacterium |  |  |  |  |  |  | **2** |
| Methylocystis |  |  |  |  |  |  | **9** |
| Xanthobacter |  |  |  |  |  |  | **4** |
| **Rhodocyclales** | Azospira |  |  | **1** |  |  |  |  |
| **Pseudomonadales** | Pseudomonas |  |  |  |  | **1** |  |  |
| **Rhodospirillales** | Telmatospirillum |  |  |  |  | **1** | **2** | **2** |
| Azospirillum |  | **1** |  |  |  |  | **1** |
| **Sphingomonadales** | Sphingomonas |  |  |  |  |  |  | **2** |
| **Burkholderiales** | Burkholderia |  | **1** |  |  |  |  | **1** |
| Ideonella |  |  |  |  |  |  | **1** |
| Pelomonas |  |  |  |  |  |  | **1** |

\*no subfamilial resolution