Table S1. Metagenome sequencing, assembly and annotation summary

| Metagenome | Sequencing | | | Assembly | | | | | | | | Annotation | | | | |
|-----------------------------|---------------------------|------------------------|--|---|------------------------------------|---------------------------|------------------------------------|------------------------------|-------------------------------|---------------------------|--------------------|---------------------------|-----------------------------|--|-------|--------------------------------|
| | No. of Sanger reads | No. of 454 reads | Total bases used for assembly after read QC (bp) | Total bases went into contigs (bp) | Total length of contigs (bp) | Count of all contig | Count of large contig ^a | N50 of large contig | Mean of large contig | Largest contig (bp) | Count of singleton | No. of coding bases | No. of protein coding genes | Percent with function prediction (%) | | Percent with pfam (%) |
| N. corniger (Lab colony) | 8013 | 516,318 | 141,210,426 | 79,882,995 | 27,355,775 | 49,107 | 19,804 | 983 | 939 | 9833 | 193,472 | 44,733,336 | 150,782 | 48.2% | 38.3% | 39.7% |
| A. wheeleri (Cow dung) | 12272 | 570,328 | 256,183,883 | 147,719,803 | 51,571,946 | 96,519 | 45,961 | 570 | 684 | 9229 | 213,123 | 100,984,684 | 321,461 | 44.2% | 36.2% | 37.7% |

^aLarge contig is contig longer than 500 bp.