

Supplementary Table 1: Overview of the 454 pyrotag amplicon libraries analyzed in this study. DNA and RNA were co-extracted from two biological replicate mats (designated "454 replicate 1" and "454 replicate 2") originating from the diel cycle studies conducted at NASA Ames.

	DNA samples		cDNA samples	
	454 replicate 1	454 replicate 2	454 replicate 1	454 replicate 2
<b>Total sequences</b>	20616	15524	20138	22246
<b>Sequences after quality assessment</b>	16539	12393	15412	16840
<b>Average sequence length after trimming</b>	389	388	382	382
<b>Chao1 *</b>	5530 / 1181	5248 / 1085	1539 / 476	2084 / 559
<b>Shannon index *</b>	6.43 / 5.41	6.42 / 5.43	3.73 / 2.29	4.16 / 2.60

\* calculated with an OTU cut-off of 97% and 90%, respectively