

Online Resource 3: Quantification of Phototrophic Bacteria

Phototrophic bacteria are known to belong to the following groups: Cyanobacteria, Green sulfur bacteria (Chlorobiaceae), Purple non sulfur bacteria (Chromatiaceae and Ectothiorhodospiraceae), Acidobacteria, Heliobacteria and Filamentous anoxygenic photoautotrophs (FAP, Chloroflexi). It is acknowledged that not all members of these groups are phototrophic but as a conservative estimate, which may overestimate the abundance of phototrophs, we assume all members are phototrophic.

Sequences associated with Cyanobacteria, Green sulfur bacteria and Heliobacteria were not recovered from any of the samples. We therefore sum all sequences associated with Purple non sulfur bacteria (Chromatiales), Acidobacteria and FAP (Chloroflexi). The relative abundance of OTUs associated with phototrophic bacteria is given in Table 1. The calculation for the percentage of microbial eukaryotes inferred to be phototrophic is described in the main manuscript.

Table 1: Percentage of bacteria and microbial eukaryotes inferred to be phototrophic.

Sample	% Phototrophs	
	Bacteria	Microbial eukaryotes
A	2.6	1.3
L	5.3	46.3
M	10.5	0.4
O	1.3	1.2

The abundance of bacteria (Table 2) relative to microbial eukaryotes can be assessed by comparing the average number of templates recovered. The average number of templates recovered for bacteria is around 2 orders of magnitude greater than the average number of templates for microbial eukaryotes at a given site. All four sites are therefore inferred to be dominantly chemotrophic

Table 2: Template abundance of 16S rRNA genes.

Sample	Average Templates (1SD)	
	(gdws)	
A	4.25×10^7	6.49×10^6
L	5.21×10^6	3.69×10^5
M	1.41×10^8	1.58×10^7
O	4.63×10^8	5.01×10^7