Table 3. Selected biogeochemically relevant genes in the HOT metatranscriptome.

A '+' indicates occurrence in the night or day sample. An asterisk indicates significantly higher transcript frequency in one.

			Night/Day	
Nitrogen	Nitrogenase (N fixation)	*nifH, nifU, nifS, nifB*	+	+
	Ammonium transport	*amt*	+	+*
	Ammonia monooxygenase	*amoA*		
	Assimilatory nitrate reductase	*narB*	+	
	Hydroxylamine oxidoreductase	*hao*		
	Nitrate permease	*napA*	+	
	Nitrite reductase	*nirA*	+	
	Dissimilatory nitrite reductase	*nirK, nirS*		
	Nitric oxide reductase	*norQ*	+	
	Nitrate transporter	*narK*	+	
	Urease	*ureC, ureE, ureF*	+	+
Methylotrophy	Serine-glyoxylate aminotransferase		+	+
	Formate dehydrogenase	*fdh, fdsD*	+	+
	Methylene tetrahydrofolate reductase	*metF*	+	+
	Methane monooxygenase	*mmo*		
	Methanol dehydrogenase	*mxa*		+
	Methenyltetrahydromethanopterin cyclohydrolase	*mch*	+	+
	Crotonyl-CoA reductase		+	+
	Formaldehyde-activating enzyme	*fae*		+
	Deoxyhypusine synthase	*dys2*	+*	+
Polyamine degradation	Spermidine/putrescine transport system permease	*potC*	+*	+
	Acetylpolyamine aminohydrolase	*aphA*		
Sulphur cycle	Sulphur oxidation	*soxB, soxC, soxA, soxZ, soxF*	+	+
	Dimethylsulphoniopropionate demethylase	*dmdA*		
Glycine betaine	Dimethylglycine dehydrogenase	*dmgdh*	+	+
	Glycine cleavage system (amnomethyltransferase)	*gcvT*	+*	+
Aromatic compounds	Aromatic ring hydroxylase	*chlP*	+	+*
	protocatechuate 3,4-dioxygenase	*pcaH*		
	Benzoyl-CoA oxygenase	*boxA*		+
Carbon monoxide	Carbon monoxide dehydrogenase	*cosS, coxM, coxL*	+	+
Phototrophy and C fixation	Photosystem I	multiple	+	+*
	Photosystem II	multiple	+	+*
	Rubisco	*rbcL, rbcS*	+	+*
	Photosynthetic reaction centre, M subunit	*pufM*		+
	Proteorhodopsin		+	+*
Phosphate assimilation	Phosphonate uptake	*phnD, phnC*	+	+

Table 3. Selected biogeochemically relevant genes in the HOT metatranscriptome.

			Night/Day	
Amino acid metabolism	Alkaline phosphatase	*phoA*	+	+
	Phosphate uptake	*pstA, pstS*	+	+
	Glutamate synthase	*gltB*	+	+
	Glutathione reductase	*gor*	+*	+
	Histidine kinase	*baeS*	+*	+
	Threonine synthase	*thrC*	+*	+
	Selenium		+*	+
Trace metal uptake	Iron	*tonB*	+	+
	Arsenite		+	
	Arsenate reductase	*arsC*	+	+