

Supplementary Information

A shared core microbiome in soda lakes separated by large distances

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Supplementary Table 2 – List of 16S amplicon OTUs matched with 16S sequences from MAGs

<i>OTU</i>	<i>Bin</i>	<i>Identity (%)</i>
OTU_792	A1	96.571
OTU_173	A6	99.143
OTU_85	A7	100
OTU_1	A2	98.571
OTU_34	Ac2	100
OTU_21	Ac1	100
OTU_77	Ac4	100
OTU_56	B15	100
OTU_78	B9	100
OTU_8	B2	96.034
OTU_647	B1	99.143
OTU_15	B6	100
OTU_2	C1	100
OTU_6	C7	100
OTU_3	C5	100
OTU_44	C4	100
OTU_25	C6	100
OTU_65	C8	100
OTU_527	C9	97.714
OTU_117	Ch1	100
OTU_116	Ch2	100
OTU_119	My1	100
OTU_48	D1	100
OTU_248	De1	97.714
OTU_7	E1	100
OTU_83	F2	100
OTU_246	F1	99.714
OTU_161	G10	100
OTU_11	G2	100
OTU_40	G9	100
OTU_33	G7	100
OTU_12	G11	100
OTU_203	Ge2	100
OTU_153	Ge5	98.857
OTU_13	Ge1	100
OTU_420	F3	100
OTU_240	F4	100
OTU_102	P9	100
OTU_178	P4	100
OTU_91	P3	100
OTU_226	P5	100

<i>OTU</i>	<i>Bin</i>	<i>Identity (%)</i>
OTU_149	P6	100
OTU_948	P1	96.857
OTU_360	V1	98.286
OTU_14	S3	100
OTU_75	S2	99.714
OTU_49	S1	100
OTU_96	S4	98.857
OTU_92	S6	100

Supplementary Table 3 – List of Gemmatimonadetes reference sequences for Figure 5 phylogenetic tree.

Genbank accession (assembly)	cluster*	sample origin	Class	Order	Family	Genus
GCA_000522985.1	A	clinical	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatirosa
GCA_001724275.1	A	Cyanide and thiocyanate bioreactor	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	SCN-70-22
GCA_002215645.1	A	soil (Laytonville, CA)	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	2013-60CM-65-52
GCA_002331565.1	A	fresh water (Highgate Springs)	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatimonas
GCA_002404335.1	A	soil (Axel Heiberg Island, Canada, SRX710613)	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	UBA4720
GCA_002483225.1	A	biofilm	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatimonas
GCF_000010305.1	A	activated sludge (phosphorus removal)	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatimonas
GCF_000695095.2	A	fresh water (Swan Lake, China)	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	Gemmatimonas
GCA_001802015.1	B	Rifle well CD01 at time point 3 / C; 5m depth; 0.2 filter	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	GWC2-71-9
GCA_001915025.1	B	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	20CM-2-65-7
GCA_001917625.1	B	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	13-1-40CM-70-15
GCA_001919115.1	B	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	40CM-2-70-7
GCA_001919865.1	B	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	20CM-4-69-16
GCA_001919895.1	B	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	20CM-2-65-7
GCA_001917665.1	B*	soil (Angelo meadow plot)	Gemmatimonadetes	Gemmatimonadales	GWC2-71-9	20CM-4-69-16
GCA_002291775.1	C	seawater (ERX556000)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_002295725.1	C	seawater (ERX552242)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_002313235.1	C	seawater (ERX556139)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_002450735.1	C	seawater (ERX552287)	Gemmatimonadetes	SG8-23	UBA6960	UBA6934
GCA_002712565.1	C	seawater (South Atlantic)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_002718595.1	C	seawater (South Pacific)	Gemmatimonadetes	SG8-23	UBA6960	GCA-2718595
GCA_002731735.1	C	seawater (North Pacific Ocean)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_003447405.1	C	seawater (ERR599072)	Gemmatimonadetes	SG8-23	UBA6960	UBA822

Genbank accession (assembly)	cluster*	sample origin	Class	Order	Family	Genus
GCA_003482615.1	C	seawater (ERR599115)	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_003445355.1	C	seawater	Gemmatimonadetes	SG8-23	UBA6960	UBA822
GCA_002295045.1	D	seawater (ERX555973)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002311875.1	D	seawater (hydrothermal vent)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002313925.1	D	seawater (ERX556139)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002339385.1	D	seawater (ERX556040)	Gemmatimonadetes	SG8-23	UBA6960	UBA2589
GCA_002347035.1	D	seawater (ERX555935)	Gemmatimonadetes	SG8-23	UBA6960	UBA2982
GCA_002348265.1	D	seawater (ERX555932)	Gemmatimonadetes	SG8-23	UBA6960	UBA2589
GCA_002348465.1	D	seawater (ERX555931)	Gemmatimonadetes	SG8-23	UBA6960	UBA2589
GCA_002348665.1	D	seawater (ERX555935)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002390225.1	D	seawater (North Sea subsurface)	Gemmatimonadetes	SG8-23	UBA6960	UBA2589
GCA_002501085.1	D	seawater (ERX555949)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002724575.1	D	seawater	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_002730115.1	D	seawater (North Pacific Ocean)	Gemmatimonadetes	SG8-23	UBA6960	UBA887
GCA_003486145.1	D	seawater (ERR599100)	Gemmatimonadetes	SG8-23	UBA6960	UBA2589
GCA_003447875.1	D	seawater (hydrothermal vent)	Gemmatimonadetes	SG8-23	UBA6960	UBA1138
GCA_002346665.1	Y	seawater (ERX555935)	Gemmatimonadetes	SG8-23	UBA6960	UBA2988
GCA_002238605.1		marine sponge (Aplysina aerophoba)	Gemmatimonadetes	SG8-23	BD2-11	BD2-11
GCA_002238865.1		marine sponge (Aplysina aerophoba)	Gemmatimonadetes	SG8-23	BD2-11	bin94
GCA_001780825.1		Rifle well FP-101 under low O2 conditions; 1.2 micron filter	Glassbacteria	GWA2-58-10	GWA2-58-10	GWA2-58-10
GCA_002686955.1		seawater (Arabian Sea)	GCA-2686955	GCA-2686955	GCA-2686955	GCA-2686955
GCA_000012905.2	outgroup	Rhodobacter sphaeroides	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Rhodobacter
GCA_000017645.1	outgroup	Xanthobacter autotrophicus	Alphaproteobacteria	Rhizobiales	Xanthobacteraceae	Xanthobacter
GCA_000688515.1	outgroup	Afifella pfennigii DSM 17143	Alphaproteobacteria	Rhizobiales	Rhodobiaceae	Afifella

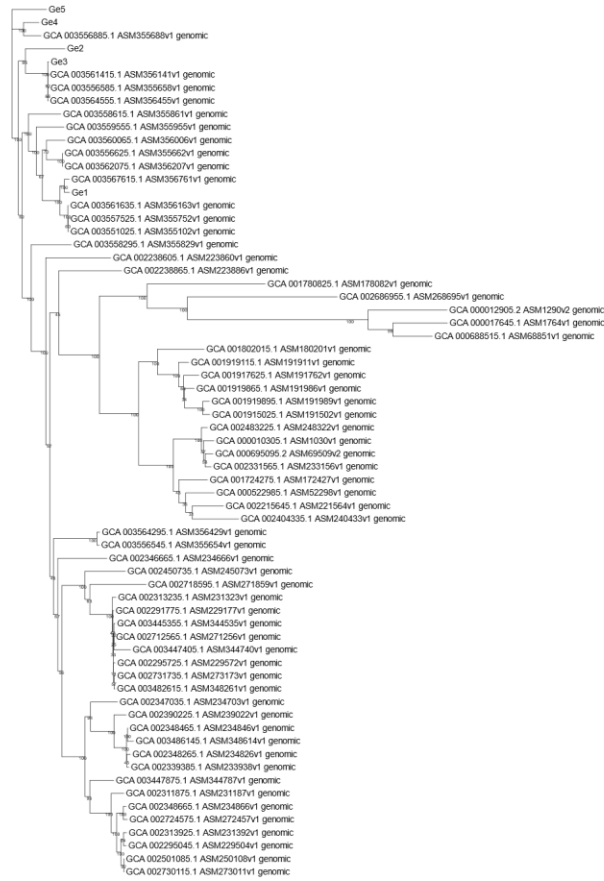
* Too few alignment positions, not included in tree

Supplementary Table 4 – List of RuBisCO large subunit reference sequences for Figure 5 phylogenetic tree

Genbank accession	Class	Order	Family	Genus	Species/Isolate
P27997	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Rhodobacter	spaeroides
P23011	Alphaproteobacteria	Rhizobiales	Xanthobacteraceae	Xanthobacter	flavus
P14959	Ochrophyta: Raphidophyceae	Raphidophyceae incertae sedis	Raphidophyceae	Olisthodiscus	luteus
P58348	Alphaproteobacteria	Rhizobiales	Rhizobiaceae	Sinorhizobium	melliloti
WP 051356539.1	Alphaproteobacteria	Rhizobiales	Xanthobacteraceae	Azorhizobium	doebereinaerae
WP 037016557.1	Alphaproteobacteria	Rhizobiales			YIM 77505
WP 026380468.1	Alphaproteobacteria	Rhizobiales	Rhodobiaceae	Afifella	pfennigii
WP_011500311.1	Methanomicrobia	Methanosarcinales	Methanosarcinaceae	Methanococcoides	burtonii DSM 6242
WP_011385076.1	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	Magnetospirillum	magneticum AMB-1
WP_011801368.1	Betaproteobacteria	Burkholderiales	Comamonadaceae	Polaromonas	naphthalenivorans CJ2
P04718	Alphaproteobacteria	Rhodospirillales	Rhodospirillaceae	Rhodospirillum	rubrum
AAG37859.1	Dinophyceae	Suessiales	Symbiodiniaceae	Symbiodinium	sp. GN

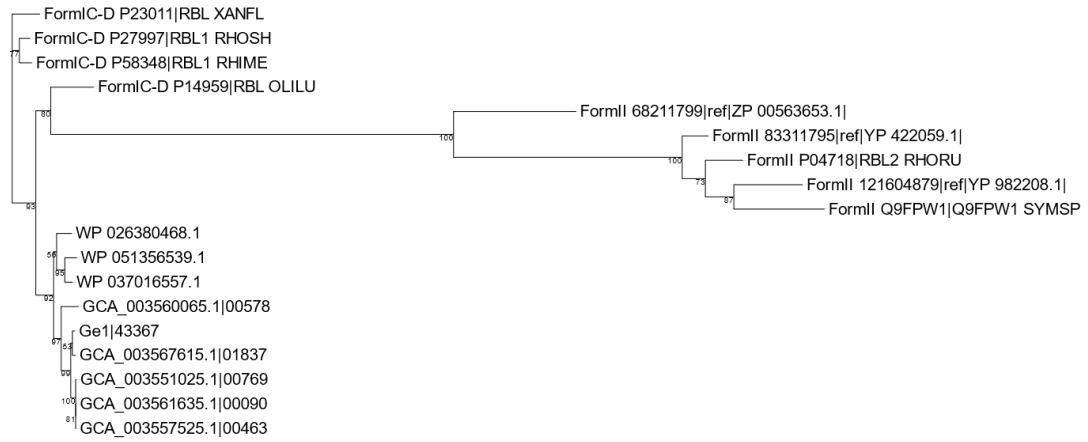
Supplementary Figures

Tree scale: 0.1



Supplementary Figure 1. Expanded Gemmatimonadetes phylogenetic tree. See also Figure 5a.

Tree scale: 0.1



Supplementary Figure 2. Expanded RuBisCO phylogenetic tree of Gemmatimonadetes representatives. See also Figure 5b.