Phycocordibacterales ord. nov.

Submitted by Jonas, Lauren

Table 1: Complete list of names proposed in the current register list.

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Order *Phycocordibacterales*	[Phy.co.cor.di.bac.ter.ales] **L. masc. n.** *Phycocordibacter*, referring to the type genus Phycocordibacter; *-ales*, ending to denote an order; **N.L. fem. pl. n.** *Phycocordibacterales*, the Phycocordibacter order	This is an order within the Patescibacteria phylum, some of whose members are symbionts of the microalgae *Nannochloropsis oceanica* strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 for carbon mitigation research.	*Paceibacteria*	*Phycocordibacter*	seqco.de/i:49171
Family *Phycocordibacteraceae*	[Phy.co.cor.di.bac.ter.a'ce.ae] **L. masc. n.** *Phycocordibacter*, referring to the type genus Phycocordibacter; *-aceae*, ending to denote a family; **N.L. fem. pl. n.** *Phycocordibacteraceae*, the Phycocordibacter family	This is a family within the Patescibacteria phylum, some of whose members are symbionts of the microalgae *Nannochloropsis oceanica* strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 for carbon mitigation research.	*Phycocordibacterales*	*Phycocordibacter*	seqco.de/i:49183
Genus *Minusculum*	[Mi.nu.scu.lum] **L. neut. n.** *Minusculum*, rather small, referring to the genome size	This is a genus within the Patescibacteria phylum, one of whose members is a symbiont of the microalgae *Nannochloropsis oceanica* strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 for carbon mitigation research.	*Phycocordibacteraceae*	*Minusculum obligatum*^{Ts}	seqco.de/i:49177
Genus	[Phy.co.cor.di.bacter] **Gr. neut. n.** *phykos*, seaweed or algae; **L. neut. n.** *cordis*, the most central part or the	This is a genus within the Patescibacteria phylum, one of whose members is symbionts of the microalgae *Nannochloropsis oceanica*		*Phycocordibacter*	

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Phycocordibacter	heart; **N.L. masc. n.** *bacter*, a rod; **N.L. masc. n.** *Phycocordibacter*, A core bacteria of a microalgal culture	strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 for carbon mitigation research.	*Phycocordibacteraceae*	*aenigmaticus*[Ts]	seqco.de/i:49176
Species *Minusculum obligatum*[Ts]	[o.bli.ga'tum] **L. neut. adj.** *obligatum*, to bind, oblige, or require	This is a Patescibacteria group bacterium that is a symbiont of the microalgae *Nannochloropsis oceanica* strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 in our laboratory for carbon mitigation research. This bacterium was found at the 1 L and 500 L scale and has a genome size of 578,798 bp. It is a dominant bacterium based on relative abundance of the 16S rRNA gene at both scales regardless of whether the algae are bubbled with 10% CO2 or ambient air. Its hyper reduced genome suggests its symbiosis may be obligatory.	*Minusculum*	NCBI Assembly: GCA_045401155.1 [Ts]	seqco.de/i:49173
Species *Phycocordibacter aenigmaticus*[Ts]	[ae.nig.ma'ti.cus] **L. masc. adj.** *aenigmaticus*, enigmatic or obscure	This is a Patescibacteria group bacterium that is a symbiont of the microalgae *Nannochloropsis oceanica* strain IMET1 and *Tetradesmus obliquus* strain HTB1. Both microalgae are grown with 10% CO2 in our laboratory for carbon mitigation research. This bacterium was found at the 1 L and 500 L scale and has a genome size of 721,362 bp.	*Phycocordibacter*	NCBI Assembly: GCA_045401115.1 [Ts]	seqco.de/i:49172