

Supplementary material

Low-temperature adapted nitrifying microbial community of Finnish wastewater treatment systems

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Table 1S. Operational parameters, analysed during the study and Standard Methods

Analysis	Method
COD _{Cr}	SFS 5504:1988
BOD _{7(ATU)}	SFS-EN 1899-1, OxiTop
P _{tot}	SFS-EN ISO 6878:2004, FIA
N _{tot}	SFS-EN-ISO 11905-1 (1998)
NO ₂ , NO ₃	SFS-EN-ISO 13395, FIA
NH ₄	ISO 11732:2005, FIA
MLSS	SFS-EN 12880:2000
SS	SFS-EN 872:2005
pH	SFS 3021:1979

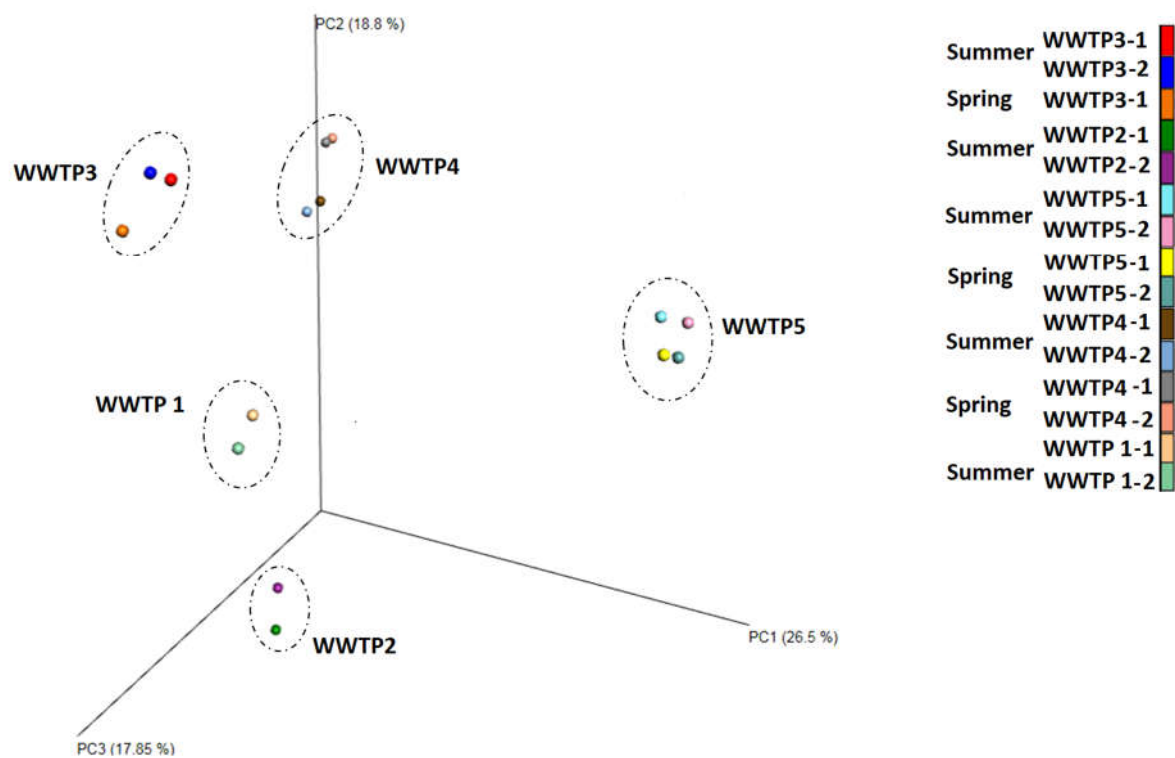


Figure 1S. Bray-Curtis PCoA plot showing the clustering of the samples from different WWTPs (clusters demonstrated by dashed lines).

Table 2S. Microbial communities of Finnish wastewater treatment plants (WWTPs) during the spring season.

Phylum	Class	Order	Spring									
			WWTP1		WWTP2		WWTP3		WWTP4		WWTP5	
			1	2	1	2	1	2	1	2	1	2
Acidobacteria	Acidobacteriia	Acidobacteriales										
Actinobacteria	Acidimicrobiia	Acidimicrobiales										
	Actinobacteria	Actinomycetales										
		Corynebacteriales										
		Micrococcales										
		Propionibacteriales										
		Unclassified										
	Thermoleophilia	Solirubrobacterales										
	Unclassified	Unclassified										
Bacteroidetes	Cytophagia	Cytophagales										
	Flavobacteriia	Flavobacteriales										
	Sphingobacteriia	Sphingobacteriales										
Chloroflexi	Chloroflexia	Unclassified										
	Unclassified	Unclassified										
Firmicutes	Bacilli	Lactobacillales										
	Clostridia	Clostridiales										
Proteobacteria	Alphaproteobacteria	Rhizobiales										
		Rhodobacterales										
		Rhodospirillales										
		Sphingomonadales										
	Betaproteobacteria	Burkholderiales										
		Gallionellales										
		Rhodocyclales										
	Gammaproteobacteria	Pseudomonadales										
		Xanthomonadales										
	Unclassified	Unclassified										
Others (%)												

Color code (%)

	0
	0.01
	0.2
	0.5
	0.8
	1
	5
	7.5
	10
	15
	20
	25

Table 3S. Microbial communities of Finnish wastewater treatment plants (WWTPs) during the summer season.

Phylum	Class	Order	Summer									
			WWTP1		WWTP2		WWTP3		WWTP4		WWTP5	
			1	2	1	2	1	2	1	2	1	2
Acidobacteria	Acidobacteriia	Acidobacteriales										
	Holophagae	Holophagales										
Actinobacteria	Acidimicrobiia	Acidimicrobiales										
	Actinobacteria	Actinomycetales										
		Micrococcales										
		Propionibacteriales										
		Unclassified										
	Thermoleophila	Solirubrobacterales										
	Unclassified	Unclassified										
Bacteroidetes	Cytophagia	Cytophagales										
	Flavobacteriia	Flavobacteriales										
	Sphingobacteriia	Sphingobacteriales										
		Unclassified										
Chloroflexi	Caldilineae	Caldilineales										
	Chloroflexia	Unclassified										
Firmicutes	Bacilli	Lactobacillales										
	Clostridia	Clostridiales										
Planctomycetes	Planctomycetia	Planctomycetales										
Proteobacteria	Alphaproteobacteria	Rhizobiales										
		Rhodobacterales										
		Sphingomonadales										
	Betaproteobacteria	Burkholderiales										
		Rhodocyclales										
	Gammaaproteobacteria	Xanthomonadales										
Others (%)												

color code (%)

	0
	0.01
	0.2
	0.5
	0.8
	1
	5
	10
	20
	30
	≥40