

Supporting Information for manuscript:

Low-ammonia niche of ammonia-oxidizing archaea in rotating biological contactors of a municipal wastewater treatment plant

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Table S1. Water chemistry data for RBC-associated wastewater.

Sample	pH	temp. (°C)	DOC (mg L ⁻¹)	nitrate (mg L ⁻¹)	nitrite (µg L ⁻¹)	ammonium (µg L ⁻¹)	dO ₂ (mg L ⁻¹)
FNER1	7.2	13.1	NA	29.4	375.8	401.9	7.1
FNER2	7.3	12.2	NA	22.5	294.6	320.3	8.0
FNER3	7.4	12.1	NA	28.1	245.9	260.9	8.3
FNER4	7.4	12.6	NA	28.4	186.4	223.8	7.8
FNER5	7.5	12.1	NA	28.9	148.5	147.5	8.9
FNER6	7.4	11.9	NA	28.2	170.1	210.6	8.7
FNER7	7.5	12.5	NA	29.0	148.5	159.3	8.5
FNER8	7.5	12.2	NA	28.5	102.5	106.8	8.7
JNER1	7.4	18.4	10.4	21.2	327.3	252.9	5.9
JNER2	7.4	18.2	10.1	21.5	190.4	135.0	6.9
JNER3	7.4	18.1	10.2	21.7	155.4	128.1	7.3
JNER4	7.5	17.9	10.6	21.1	111.1	112.0	7.6
JNER5	7.5	17.9	10.3	21.5	116.8	89.7	7.7
JNER6	7.5	18.0	10.6	21.7	103.3	81.5	7.4
JNER7	7.5	18.0	10.6	21.4	100.2	79.3	7.5
JNER8	7.6	18.0	10.6	22.0	63.6	45.5	7.8
JSER1	7.4	18.0	11.2	20.9	220.4	147.4	5.5
JSER2	7.4	17.9	10.3	20.9	152.3	103.9	6.7
JSER3	7.4	18.0	10.6	20.9	159.3	105.2	6.5
JSER4	7.4	18.0	9.5	21.5	144.6	95.2	6.8
JSER5	7.4	18.0	10	20.6	115.7	83.3	7.1
JSER6	7.5	17.9	10.3	21.1	107.6	78.4	7.2
JSER7	7.5	18.0	9.8	21.4	84.6	74.2	7.3
JSER8	7.6	18.0	10.3	20.6	72.8	52.3	7.5
SNER1	7.3	21.0	9.3	12.9	91.7	176.6	6.0
SNER2	7.4	21.1	10.3	13.1	66.5	152.6	6.1
SNER3	7.3	21.0	10.7	14.8	56.8	148.7	6.4
SNER4	7.3	21.0	10.0	20.6	65.7	110.2	6.6
SNER5	7.4	20.9	10.0	15.0	51.9	95.4	6.8
SNER6	7.4	20.9	10.7	17.5	46.8	81.6	6.9
SNER7	7.3	21.0	10.6	15.8	27.6	43.1	7.0
SNER8	7.5	21.0	10.2	22.7	38.4	41.2	7.1
SSER1	7.3	21.0	9.6	15.1	51.4	64.5	5.9
SSER2	7.3	21.1	9.3	15.7	39.7	56.6	6.5
SSER3	7.5	21.0	9.0	15.2	35.1	53.2	6.6
SSER4	7.2	21.1	8.8	22.5	43.5	51.9	6.6
SSER5	7.4	21.0	9.1	11.9	27.0	51.1	6.7
SSER6	7.4	21.0	9.1	17.9	28.9	42.9	6.9
SSER7	7.3	21.0	9.1	19.2	43.0	33.8	7.1
SSER8	7.3	21.0	9.1	15.8	21.9	32.8	7.0

DOC: dissolved organic carbon

dO₂: dissolved oxygen

NA: data not available

Figure S1. Bacterial *amoA* (A) and general bacterial 16S rRNA (B) gene copies in biofilm samples across RBC flowpaths. Error bars represent standard deviations based on technical duplicates; error bars that are not seen are contained within the symbols.

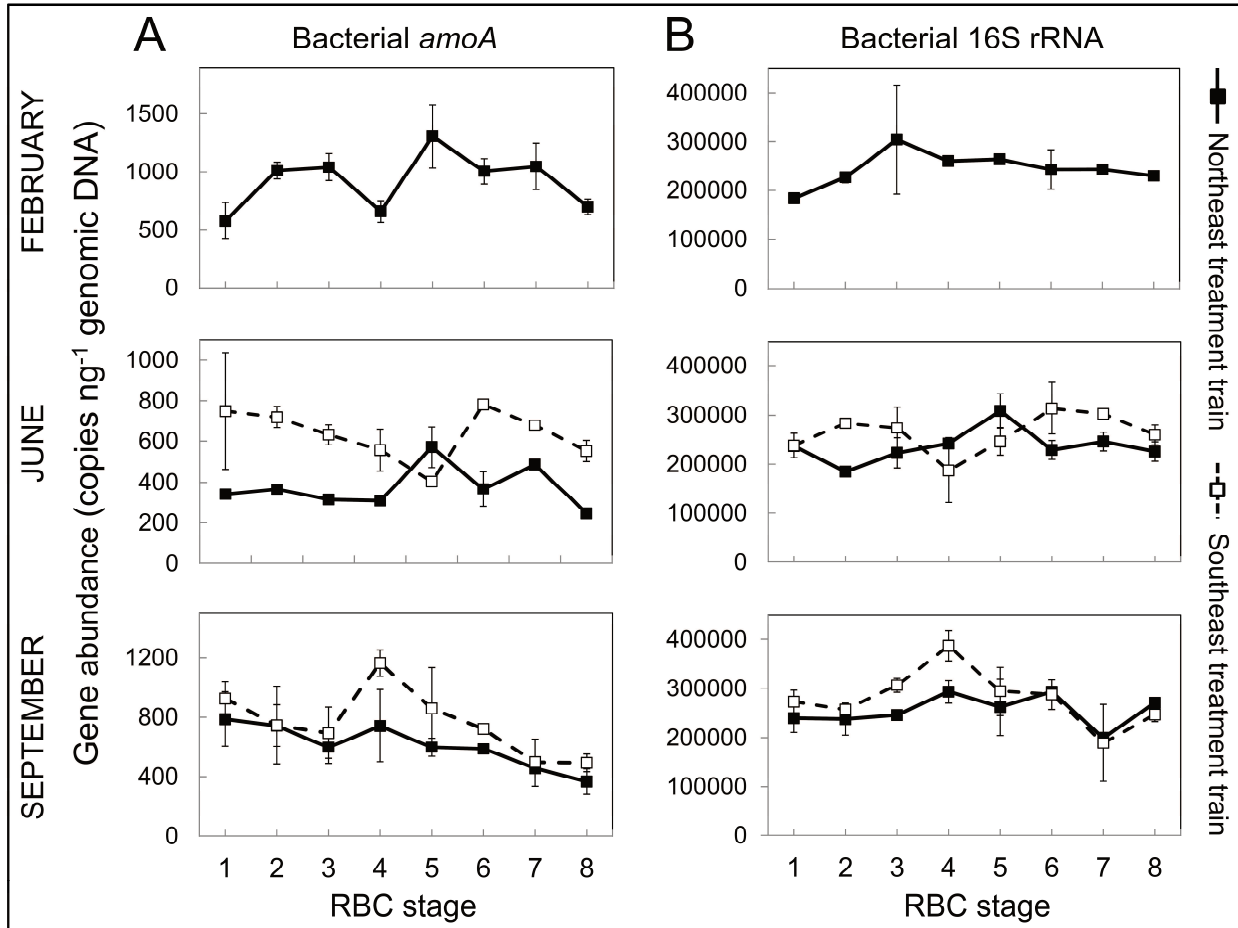


Figure S2. DGGE fingerprints for bacterial and thaumarchaeal *amoA* and 16S rRNA genes across eight serial RBC stages for all sampling seasons and RBC treatment trains.

