

Supplement of Biogeosciences, 15, 4205–4214, 2018  
<https://doi.org/10.5194/bg-15-4205-2018-supplement>  
© Author(s) 2018. This work is distributed under  
the Creative Commons Attribution 4.0 License.



*Supplement of*

## **Community composition and seasonal changes of archaea in coarse and fine air particulate matter**

**Jörn Wehking et al.**

*Correspondence to:* Viviane R. Després ([despres@uni-mainz.de](mailto:despres@uni-mainz.de)) and Jörn Wehking ([wehking@uni-mainz.de](mailto:wehking@uni-mainz.de))

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

## Supplementary material.

5 **Table S1: List of air filter samples analysed for Archaea presence. While the air masses collected on MZ 11, MZ 15, and MZ 31 were sampled over 1, 5, and 5 days, respectively, all other air filter samples were taken over a 7-day period corresponding to ~ 3000 m<sup>3</sup> of sampled air. Air masses analysed and sequenced with Illumina within this study are bold. For comparison the samples analysed and published in Fröhlich-Nowoisky et al (2014) were included, n.a. = not available as these air masses were not sequenced with Illumina but exclusively via Sanger sequencing.**

Sample ID	Sampling period	Number of sequences 16S Sanger (coarse, fine)	Number of sequences 16S Illumina (coarse, fine)
MZ 1	24.03.2006 - 31.03.2006	5	n.a.
MZ 2	31.03.2006 - 07.04.2006	8	n.a.
MZ 4	07.04.2006 - 12.04.2006	11	n.a.
MZ 6	15.04.2006 - 18.04.2006	4	n.a.
MZ 9	20.04.2006 - 27.04.2006	5	n.a.
MZ 10	27.04.2006 - 02.05.2006	5	n.a.
<b>MZ 11</b>	<b>02.05.2006 - 03.05.2006</b>	<b>7</b>	<b>3 - 80</b>
<b>MZ 15</b>	<b>04.05.2006 - 09.05.2006</b>	<b>9 - 6</b>	<b>195 - 81</b>
MZ 18	12.05.2006 - 15.05.2006	7	n.a.
MZ 19	15.05.2006 - 16.05.2006	7	n.a.
MZ 21	17.05.2006 - 18.05.2006	4	n.a.
<b><u>MZ23 blank</u></b>	<b><u>18.05.2006</u></b>		<b><u>0 - 2</u></b>
MZ 24	18.05.2006 - 22.05.2006	13	n.a.

MZ 25	22.05.2006 - 23.05.2006	12	n.a.
<b>MZ 26</b>	<b>23.05.2006 - 30.05.2006</b>	<b>12 - 6</b>	<b>301 - 103</b>
<b>MZ 31</b>	<b>01.06.2006 - 06.06.2006</b>	<b>8</b>	<b>208 - 5</b>
MZ 33	08.06.2006 - 13.06.2006	10	n.a.
MZ 35	14.06.2006 - 21.06.2006	5 - 1	n.a.
MZ 36	21.06.2006 - 22.06.2006	10	n.a.
MZ 40	27.06.2006 - 04.07.2006	9	n.a.
<b>MZ 41</b>	<b>04.07.2006 - 11.07.2006</b>	<b>5</b>	<b>19 - 284</b>
MZ 45	19.07.2006 - 21.07.2006	14, 4	n.a.
<b>MZ 47</b>	<b>26.07.2006 - 02.08.2006</b>	<b>5</b>	<b>32 - 23</b>
<b>MZ 50</b>	<b>02.08.2006 - 09.08.2006</b>	<b>9</b>	<b>196 - 132</b>
MZ 51	09.08.2006 - 16.08.2006	5	n.a.
<b>MZ 52</b>	<b>16.08.2006 - 23.08.2006</b>	<b>9</b>	<b>234 - 2</b>
<b>MZ 54</b>	<b>30.08.2006 - 06.09.2006</b>	<b>4 - 15</b>	<b>183 - 574</b>
<b>MZ 59</b>	<b>11.09.2006 - 18.09.2006</b>	<b>11</b>	<b>597 - 3</b>
MZ 60	18.09.2006 - 25.09.2006	5	n.a.
<b>MZ 62</b>	<b>02.10.2006 - 09.10.2006</b>	<b>6</b>	<b>318 - 351</b>
MZ 63	09.10.2006 - 16.10.2006	12	n.a.
MZ 66	16.10.2006 - 23.10.2006	4	n.a.

<b>MZ 67</b>	<b>23.10.2006 - 30.10.2006</b>	<b>12</b>	<b>29 - 321</b>
MZ 69	02.11.2006 - 09.11.2006	20	n.a.
MZ 71	16.11.2006 - 23.11.2006	1	n.a.
<b><u>MZ73 blank</u></b>	<b><u>23.11.2006</u></b>		<b><u>371 - 37</u></b>
<b>MZ 74</b>	<b>23.11.2006 - 30.11.2006</b>	<b>8</b>	<b>797 - 2</b>
MZ 75	30.11.2006 - 07.12.2006	11 - 7	n.a.
MZ 77	14.12.2006 - 21.12.2006	5	n.a.
<b>MZ 81</b>	<b>28.12.2006 - 04.01.2007</b>	<b>5</b>	<b>5 - 0</b>
<b>MZ 82</b>	<b>04.01.2007 - 11.01.2007</b>	<b>8</b>	<b>202 - 21</b>
MZ 84	18.01.2007 - 25.01.2007	5 - 4	n.a.
<b>MZ 88</b>	<b>01.02.2007 - 08.02.2007</b>	<b>3</b>	<b>93 - 2</b>
<b>MZ 90</b>	<b>15.02.2007 - 22.02.2007</b>	<b>9</b>	<b>122 - 485</b>
<b>MZ 93</b>	<b>22.02.2007 - 01.03.2007</b>	<b>15 - 6</b>	<b>597 - 2</b>
MZ 95	08.03.2007 - 15.03.2007	9	n.a.
MZ 97	22.03.2007 - 29.03.2007	5	n.a.
<b>MZ 101</b>	<b>05.04.2007 - 12.04.2007</b>	<b>11 - 4</b>	<b>36 - 4</b>
<b>MZ 103</b>	<b>19.04.2007 - 26.04.2007</b>	<b>10 - 4</b>	<b>109 - 5</b>
<hr/>			
	$\Sigma$ (+contaminants)		<b>4285 - 2507</b>
	$\Sigma$ (-contaminants)		<b>2180 - 161</b>

5 **Table S2: Air filter blank samples analyzed for archaeal contamination. All families found on mounting blank filters comprise together 410 sequences: families were discarded from the data if present in more than 1% of all detected archaeal sequences on the mounting blanks, i.e., the Methanoregulaceae (8.54%), Methanomassiliicoccaceae (17.56%), and the Methanobacteriaceae (72.44%).**

	MZ 23		MZ 73		$\Sigma$	%
	coarse	fine	coarse	fine		
Cenarchaeaceae	0	0	1	1	2	0.49
Methanobacteriaceae	0	0	297	0	297	72.44
Methanoregulaceae	0	0	0	35	35	8.54
Methanosaetaceae	0	2	1	1	4	0.98
Methanomassiliicoccaceae	0	0	72	0	72	17.56

10