

Supplementary Materials: Assessment of Atmospheric Pollution by Selected Elements and PAHs during 12-Month Active Biomonitoring of Terrestrial Mosses

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Table S1. Average elemental concentrations in mosses during the one-year experiment- relative values [µg/g].

Pl	Li	Al.	Se	Sr	Mo	Cd	Ba	Pb	Cr	Mn	Fe	Ni	Cu	Zn	As	Co
0	0.655	869	0.679	12.4	0.414	0.961	42.1	11.1	2.05	461	698	2.74	22.3	116	0.478	0.447
1	n.d.	n.d.	0.04	0.10	4.04	0.62	n.d.	1.13	0.01	n.d.	50.1	n.d.	3.01	4.68	n.d.	n.d.
2	n.d.	n.d.	0.16	2.08	n.d.	0.09	n.d.	2.64	n.d.	n.d.	n.d.	19.8	1.45	15.9	0.03	0.07
3	0.21	n.d.	0.24	2.39	2.98	0.27	n.d.	5.43	0.01	n.d.	134	n.d.	3.49	32.4	0.24	0.11
4	1.04	9.71	0.42	5.37	1.09	0.45	6.14	10.0	0.69	n.d.	207	0.23	11.4	51.1	0.45	0.22
5	0.28	n.d.	0.42	5.86	0.20	0.50	5.50	10.5	0.79	n.d.	161	0.23	6.24	42.7	0.44	0.20
6	0.34	119	0.73	1.93	0.30	0.74	20.2	14.0	0.93	n.d.	256	0.26	14.9	61.1	0.53	0.28
7	0.47	408	0.76	4.99	0.40	1.07	56.3	22.3	1.28	n.d.	633	0.55	5.69	83.0	0.42	0.43
8	0.67	678	0.86	11.4	2.06	1.05	53.0	22.7	1.71	n.d.	897	0.74	11.7	122	0.63	0.52
9	0.78	1050	0.84	8.04	0.52	1.04	69.0	25.2	2.02	n.d.	1318	0.94	11.3	136	0.62	0.62
10	1.13	1334	0.93	9.50	0.63	0.90	79.1	24.9	2.47	n.d.	1441	1.08	5.65	259	0.50	0.66
11	2.02	1528	1.07	28.7	0.57	1.17	145	33.0	3.03	n.d.	1916	1.67	9.70	225	0.73	0.94
12	1.47	1629	1.12	11.8	0.53	1.16	132	30.7	3.17	n.d.	1914	1.84	9.59	204	0.74	0.92
Sp	Li	Al.	Se	Sr	Mo	Cd	Ba	Pb	Cr	Mn	Fe	Ni	Cu	Zn	As	Co
0	0.42	896	0.72	20.9	0.57	1.07	69.0	8.50	1.52	273	481	2.00	9.44	109	0.37	0.49
1	0.04	21.2	0.11	6.05	0.10	0.14	9.78	1.69	0.26	9.61	11.5	0.86	0.10	11.8	0.04	0.10
2	0.20	n.d.	0.15	9.23	0.19	0.31	0.71	2.28	n.d.	47.9	24.0	0.33	0.44	19.9	0.06	0.14
3	0.44	13.5	0.27	12.0	0.07	0.39	5.55	5.05	0.18	46.0	146	0.43	3.76	37.6	0.37	0.22

4	0.94	172	0.38	16.0	0.12	0.54	14.3	7.98	0.52	42.7	192	0.83	10.5	53.9	0.50	0.28
5	0.65	282	0.42	21.8	1.17	0.69	n.d.	10.5	0.93	36.0	299	0.87	8.97	95.9	0.57	0.38
6	0.54	223	0.64	4.56	0.09	0.55	38.0	7.37	0.73	36.7	232	0.63	3.88	83.7	0.52	0.25
7	0.69	512	0.80	19.6	0.50	1.00	73.2	17.6	1.50	63.7	742	1.66	24.5	95.9	0.58	0.52
8	1.10	556	0.91	22.3	0.32	0.99	76.2	16.2	1.56	71.6	711	1.27	8.30	99.1	0.67	0.55
9	0.92	681	0.85	15.0	0.28	0.88	86.8	18.4	1.84	78.4	1040	1.44	7.41	98.1	0.66	0.59
10	1.26	1032	0.80	18.0	0.26	0.89	102	14.6	1.62	109	1047	1.49	6.86	204	0.56	0.59
Di	Li	Al.	Se	Sr	Mo	Cd	Ba	Pb	Cr	Mn	Fe	Ni	Cu	Zn	As	Co
0	0.496	746	0.735	11.4	1.59	0.981	35.8	10.9	1.84	394	696	2.01	21.7	95.1	0.488	0.408
1	0.12	119	0.11	3.31	n.d.	0.06	10.7	2.34	0.20	31.3	164	0.40	1.95	23.2	0.06	0.11
2	0.21	93.13	0.26	5.96	62.9	0.37	23.8	5.14	0.55	2.64	182	0.66	2.64	42.5	0.19	0.22
3	0.65	256	0.41	6.96	n.d.	0.41	8.40	8.05	0.93	n.d.	320	0.83	6.43	61.8	0.53	0.32
4	1.30	479	0.66	13.3	n.d.	0.67	12.9	13.3	1.70	n.d.	584	1.55	12.1	95.1	0.74	0.48
5	0.70	518	5.43	13.6	n.d.	0.82	15.1	17.0	1.59	n.d.	637	1.46	15.3	153	0.59	0.49
6	0.58	616	16.4	4.50	n.d.	0.71	21.8	14.8	1.18	n.d.	709	1.10	7.73	84.3	0.55	0.42
7	0.72	737	2.83	6.73	1.47	0.85	45.0	20.2	1.97	n.d.	989	1.50	8.98	95.7	0.58	0.57
8	1.07	857	18.0	15.4	2.82	0.79	103	19.6	2.05	50.5	1045	1.64	9.31	154	0.70	0.62
9	1.51	1313	4.07	27.1	n.d.	1.14	110	29.0	3.84	n.d.	1652	2.66	12.4	242	0.78	0.91
10	1.67	1629	1.63	26.9	0.02	1.13	125	30.2	3.40	n.d.	1907	2.79	14.9	278	0.73	1.02
11	2.25	1913	18.5	19.9	n.d.	1.00	130	30.9	3.81	n.d.	2119	2.72	14.4	288	0.79	0.98
12	1.44	1756	3.48	26.6	n.d.	1.15	50.1	30.6	3.57	n.d.	1911	2.77	16.7	249	0.76	1.09

n.d.: no data- no element was determined or its concentration was lower than that of the control sample marked '0'; consecutive numbers indicate consecutive

months of exposure; Pl, Sp, Di- selected moss species: *P. schreberi*, *S. fallax*, *D. polysetum*

Table S2. Average concentrations of PAHs in mosses during the one-year experiment- relative values [ng/g].

Pl	Naphthalin	Acenaphthylene	Acenaphthen	Fluoren	Phenanthren	Pyren	Benzo(a)anthracen	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyren	Dibenzo(a,h)anthracen	Benzo(g,h,i)perylene	Anthracen	Fluoranthen	Chrysen	Benzo(b)fluoranthen
0	20.8	0.01	0.01	0.039	55.9	23.4	0.039	4.84	12.4	19.6	17.6	17.6	9.64	37.1	17.1	4.03
1	6.01	n.d.	0.179	n.d.	31.1	63.7	4.54	4.14	1.39	1.44	3.92	3.92	3.11	88.6	24.8	9.60
2	15.0	2.50	0.078	8.19	254	236	21.3	17.4	5.21	14.2	12.3	12.3	11.3	358	79.8	39.0
3	12.7	3.40	4.76	10.3	219	289	35.3	28.1	9.40	14.9	15.8	15.8	18.1	434	112	44.6
4	9.76	1.88	n.d.	8.12	275	460	46.0	48.7	15.3	25.6	24.4	24.4	15.9	731	164	70.4
5	13.6	12.2	n.d.	20.5	612	595	36.1	57.2	18.8	34.5	28.8	28.8	18.0	1050	566	95.2
6	22.7	10.4	0.248	23.9	563	540	32.0	53.6	19.0	31.0	27.1	27.1	16.5	972	196	90.2
7	19.7	7.09	n.d.	10.4	343	490	34.2	56.9	19.3	28.8	26.3	26.3	11.9	829	222	87.1
8	n.d.	6.96	n.d.	5.39	160	314	29.1	50.5	23.0	25.3	23.2	23.2	9.31	523	172	86.4
9	1.39	4.85	0.921	6.23	86.9	183	23.6	48.4	23.2	26.0	22.8	22.8	9.66	290	135	83.8
10	4.49	6.44	1.25	6.84	66.7	122	20.1	39.6	22.0	23.8	24.3	24.3	14.6	189	100	72.1
11	6.60	8.79	1.33	5.94	60.8	115	19.8	38.0	20.7	20.8	24.0	24.0	11.0	176	93.9	64.0
12	10.7	6.92	2.68	5.86	83.9	129	21.8	39.7	21.6	19.6	20.7	20.7	14.5	185	84.5	61.0
Sp	Naphthalin	Acenaphthylene	Acenaphthen	Fluoren	Phenanthren	Pyren	Benzo(a)anthracen	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyren	Dibenzo(a,h)anthracen	Benzo(g,h,i)perylene	Anthracen	Fluoranthen	Chrysen	Benzo(b)fluoranthen
0	43.6	33.7	4.98	20.5	110	67.0	8.96	9.50	14.0	15.2	7.24	0.020	16.6	53.8	19.5	12.3
1	n.d.	n.d.	n.d.	n.d.	41.0	64.6	2.80	3.89	n.d.	2.31	4.89	14.3	0.055	124	21.5	3.27
2	8.03	n.d.	3.66	8.76	323	257	15.6	14.1	3.42	7.94	2.69	24.0	7.84	423	61.7	21.8
3	n.d.	n.d.	3.25	n.d.	202	272	24.7	24.6	6.23	16.3	3.24	30.2	6.73	465	85.6	33.4

4	n.d.	n.d.	n.d.	7.09	402	513	35.0	21.4	66.3	28.7	1.65	36.8	11.6	906	149	71.7
5	n.d.	n.d.	n.d.	n.d.	432	268	10.3	20.7	3.18	9.76	1.82	21.8	n.d.	552	69.4	30.3
6	n.d.	n.d.	n.d.	5.18	581	467	23.6	57.0	14.7	27.0	1.90	36.5	1.26	947	130	66.1
7	n.d.	n.d.	n.d.	3.23	318	424	27.4	51.6	17.0	33.5	2.17	41.2	1.67	884	184	84.7
8	n.d.	n.d.	n.d.	n.d.	83.5	238	15.5	32.9	13.8	21.1	3.10	29.8	0.407	518	110	53.2
9	n.d.	n.d.	n.d.	n.d.	n.d.	98.1	11.6	30.1	14.3	20.8	0.216	30.8	n.d.	244	78.5	50.6
10	n.d.	n.d.	n.d.	15.5	n.d.	48.8	9.41	19.6	11.3	10.2	2.08	23.1	n.d.	159	43.2	29.0
Di	Naphthalin	Acenaphthylene	Acenaphthen	Fluoren	Phenanthren	Pyren	Benzo(a)anthracen	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyren	Dibenzo(a,h)anthracen	Benzo(g,h,i)perylene	Anthracen	Fluoranthen	Chrysen	Benzo(b)fluoranthen
0	604	432	77.8	351	1072	557	89.2	46.2	63.3	68.7	33.3	118	47.1	361	121	109
1	542	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	8.37	n.d.	n.d.	18.1	n.d.	n.d.	n.d.	n.d.	n.d.
2	40.4	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	2.59	n.d.	n.d.	19.5	n.d.	n.d.	199	17.8	n.d.
3	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1.15	n.d.	n.d.	9.87	n.d.	n.d.	224	8.57	n.d.
4	n.d.	n.d.	n.d.	n.d.	n.d.	248	n.d.	30.9	n.d.	n.d.	36.3	n.d.	n.d.	853	105	n.d.
5	n.d.	n.d.	n.d.	n.d.	353	328	n.d.	26.9	n.d.	n.d.	21.9	n.d.	n.d.	1062	137	n.d.
6	252	n.d.	n.d.	n.d.	590	474	14.3	62.7	n.d.	0.960	11.7	n.d.	8.46	1092	176	28.5
7	n.d.	n.d.	n.d.	n.d.	n.d.	26.1	n.d.	12.0	n.d.	n.d.	n.d.	n.d.	n.d.	546	90.3	n.d.
8	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	6.19	n.d.	n.d.	n.d.	n.d.	n.d.	164	29.5	n.d.
9	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.19	n.d.	n.d.	n.d.	n.d.	n.d.	19.6	17.6	n.d.
10	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
12	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

n.d.: no data- no PAH was determined or its concentration was lower than that of the control sample marked '0'; consecutive numbers indicate consecutive

months of exposure; Pl, Sp, Di- selected moss species: *P. schreberi*, *S. fallax*, *D. polysetum*