

Table S1. Supplementary materials

Transect	Profile number	Soil type Polish Soil Classification (2019)	Coordinates	Soil horizon	Depth	Color (moist)	Structure	FC	Bulk density	TOC	TN	TOC/TN	CaCO <sub>3</sub>
					(cm)			(%)	(g cm <sup>-3</sup> )	(%)	(%)		
I	P 1	peat soil	N 53°3'57.48" E 17°3'6.05"	Md	0-10	7.5YR 3/1	granular	N/A	0.63	14.5	1.38	11	18.9
				M	10-27	7.5YR 2/3	granular	N/A	0.37	14.4	1.34	11	21.7
				Lcca	27-33	10YR 3/1	amorphous	N/A	0.26	29.9	2.17	14	28.9
				OaLcca	33-56	10YR 2/2	amorphous-fibrous	12	0.28	31.4	1.91	16	31.5
				OeLcca1	56-64	10YR 2/2	amorphous-fibrous	22	0.29	30.0	1.83	16	26.4
				OeLcca2	64-80	10YR 2/2	amorphous-fibrous	20	0.24	32.3	1.96	16	32.0
	P 2	murshic soil	N 53°3'45.86" E 17°3'7.64"	Oe	80-130	10YR 2/1	amorphous-fibrous	23	0.23	48.8	2.93	17	3.75
				Md	0-10	10YR 2/1	granular	N/A	0.35	34.0	2.99	11	-
				M	10-30	10YR 2/1	granular	N/A	0.35	43.0	3.39	13	-
				Oe1	30-50	10YR 2/2	amorphous-fibrous	20	0.26	47.9	3.34	14	-
				Oe2	50-75	10YR 2/2	amorphous-fibrous	18	0.18	51.1	3.19	16	-
				Oe3	75-100	10YR 1/1	amorphous-fibrous	20	0.18	48.9	3.22	15	-
	P 3	earth-covered peat soil	N 53°3'30.25" E 17°3'3.15"	Oa	100-130	7.5YR 2/1	amorphous	8	0.19	42.7	2.75	16	-
				Adu	0-12	10YR 3/3	granular	N/A	1.02	8.31	0.86	10	4.79
				Au1	12-19	10YR 3/4	granular	N/A	1.16	4.75	0.50	10	5.84
				Au2	19-31	10YR 3/4	granular	N/A	1.18	5.85	0.67	9	10.7
				Oe	31-55	10YR 3/3	amorphous-fibrous	23	0.16	50.5	4.16	12	-
				Oi	55-85	10YR 2/2	fibrous	50	0.14	48.2	3.95	12	1.95
	P 4	peat soil	N 53°3'21.74" E 17°2'59.26"	OiLcca1	85-102	10YR 2/3	fibrous	49	0.22	39.0	3.01	13	23.7
				OiLcca2	102-130	10YR 3/2	fibrous	43	0.21	38.0	3.10	12	25.3
				Md	0-15	10YR 3/3	granular	N/A	0.95	12.2	0.89	13	7.82
				M	15-25	10YR 4/1	granular	N/A	0.81	12.2	1.16	11	6.88
				Oa1	25-55	7.5YR 3/2	amorphous	3	0.18	49.9	4.47	11	-
				Oe	55-90	7.5YR 3/2	amorphous-fibrous	29	0.14	54.2	4.20	13	-
	P 5	peat soil	N 53°3'3.75" E 17°2'57.38"	Oa2	90-125	7.5YR 3/2	amorphous	15	0.19	45.5	3.30	14	1.64
				Oa3	125-150	7.5YR 3/2	amorphous	15	0.11	52.8	3.82	14	-
				Md	0-15	5YR 3/4	granular	N/A	0.79	12.5	1.05	11	5.95
				M	15-27	5YR 3/4	granular	N/A	0.61	12.0	1.12	11	5.68
				Oe1	27-65	10YR 3/2	amorphous-fibrous	17	0.19	50.3	4.19	12	-
				Oe2	65-100	10YR 3/2	amorphous-fibrous	17	0.16	53.7	3.06	18	-
	P 6	earth-covered peat soil	N 53°2'44.17" E 17°2'56.39"	Oa	100-130	10YR 2/1	amorphous	3	0.17	54.3	4.25	13	-
				Adu	0-10	10YR 3/3	granular	N/A	1.03	9.32	1.00	9	1.47
				Au	10-25	10YR 3/3	granular	N/A	0.44	3.76	0.44	9	2.19
				Oa	25-51	10YR 3/2	amorphous	8	0.18	48.4	3.30	15	-
				Oe1	51-75	10YR 3/3	amorphous-fibrous	20	0.20	49.2	2.90	17	-
				Oe2	75-90	10YR 2/2	amorphous-fibrous	20	0.23	33.7	1.88	18	-
II	P 1	peat soil	N 53°3'39.92" E 17°3'55.84"	Md	0-15	10YR 3/2	granular	N/A	0.81	12.8	1.33	10	9.50
				M	15-25	10YR 2/3	granular	N/A	0.75	13.7	1.43	10	3.60
				Lcca	25-32	10YR 5/3	amorphous	N/A	0.22	20.6	1.93	11	51.0
				OeLcca	32-45	10YR 5/4	amorphous-fibrous	18	0.25	29.6	2.48	12	37.0
				OiLc	45-70	10YR3/4	fibrous	42	0.21	40.3	2.92	14	16.9
				OiLcca	70-100	10YR 4/4	fibrous	42	0.21	33.7	2.37	14	30.7
	P 2	murshic soil	N 53°3'32.37" E 17°3'55.37"	Md	0-20	10YR 3/2	granular	N/A	0.81	12.2	1.09	11	4.90
				M	20-35	10YR 3/3	granular	N/A	0.75	16.4	1.29	13	3.70
				Oe1	35-55	10YR 2/3	amorphous-fibrous	18	0.19	45.9	3.62	13	5.00
				Oe2	55-80	10YR 2/3	amorphous-fibrous	22	0.16	51.0	3.76	14	-
				Oa	80-120	10YR 2/2	amorphous	13	0.18	51.9	3.45	15	0.30
				Md	0-20	10YR 2/2	granular	N/A	0.33	30.2	3.23	9	0.80
	P 3	murshic soil	N 53°3'24.62" E 17°3'56.05"	M	20-35	10YR 2/1	granular	N/A	0.31	33.2	2.86	12	-
				Oe1	35-43	10YR 3/3 – 50% 10YR 2/2 – 50%	amorphous-fibrous	18	0.34	35.3	2.90	12	-
				Oe2	43-65	10YR 3/3	amorphous-fibrous	19	0.19	47.1	3.76	13	-
				Oe3	65-85	7.5YR 3/3	amorphous-fibrous	21	0.20	43.2	3.10	14	-
				Oa	85-110	7.5YR 3/2	amorphous	5	0.17	53.5	3.47	15	-
				Md	0-20	10YR 2/1	granular	N/A	0.66	13.9	1.04	13	0.20
	P 4	peat soil	N 53°3'13.64" E 17°3'55.84"	Oa1	20-40	10YR2/2 7.5YR2/2	amorphous-fibrous	13	0.33	53.5	3.63	15	-
				Oe	40-65	7.5YR 3/3	amorphous-fibrous	18	0.14	54.3	3.58	15	-
				Oa2	65-85	10YR 2/2	amorphous	7	0.18	55.2	3.03	18	-
				Oa3	85-120	7.5YR 3/4	amorphous	12	0.20	54.2	3.50	15	-
				Md	0-20	10YR 2/2	granular	N/A	0.47	23.4	2.00	12	0.15
				M	20-34	10YR 2/2	granular	N/A	0.30	28.5	2.47	12	-
	P 5	murshic soil	N 53°3'2.40" E 17°3'55.43"	Oe1	34-50	7.5YR 3/3	amorphous-fibrous	18	0.15	53.3	2.86	19	-
				Oe2	50-78	7.5YR 4/3	amorphous-fibrous	18	0.19	54.7	3.21	17	-
				Oe3	78-100	7.5YR 2/2	amorphous-fibrous	17	0.15	54.9	3.29	17	-
				Oa	100-130	7.5YR 2/2 – 60% 7.5YR 6/4 – 40%	amorphous	10	0.16	51.7	3.05	17	-
				Md	0-17	10YR 2/2	granular	N/A	0.93	12.6	0.91	14	0.20
				M	17-30	7.5YR 2/2 – 50% 7.5YR 4/3 – 50%	granular	18	0.85	44.3	2.75	16	-
	P 6	murshic soil	N 53°2'47.12" E 17°3'53.79"	Oe1	30-45	7.5YR 2/2	amorphous-fibrous	18	0.21	53.8	3.49	15	-
				Oe2	45-67	7.5YR 6/8 – 70% 7.5YR 2/2 – 30%	amorphous-fibrous	20	0.22	54.0	3.29	16	-
				Oi1	67-95	7.5YR 6/8 – 80% 7.5YR 3/2 – 20%	fibrous	45	0.13	54.4	3.19	17	-
				Oi2	95-130	10YR 2/2 – 50% 10YR 6/6 – 50%	fibrous	42	0.15	54.9	3.36	16	-

Explanation: N/A – not analyzed, FC – fiber content after rubbing, TOC – total organic carbon TN – total nitrogen, CaCO<sub>3</sub> – calcium carbonate, determined according to the Scheibler's method

Transect	Profile number	Soil type Polish Soil Classification (2019)	Coordinates	Soil horizon	Depth	Color (moist)	Structure	FC	Bulk density	TOC	TN	TOC/TN	CaCO <sub>3</sub>	
					(cm)			(%)	(g cm <sup>-3</sup> )	(%)	(%)			
III	P 1	murshic soil	N 53°4'26.21" E 17°6'14.62"	Md	0-20	10YR 2/1	granular	N/A	0.32	40.4	3.89	10	1.30	
				M	20-30	7.5YR 2/1	granular	N/A	0.25	44.3	4.14	11	-	
				Oa1	30-50	10YR 3/2	amorphous	3	0.20	48.8	3.97	12	-	
				Oa2	50-80	10YR 4/3	amorphous	3	0.25	48.7	3.89	13	-	
				Oa3	80-110	10YR 2/2	amorphous	3	0.22	49.5	3.82	13	-	
	P 2	peat soil	N 53°4'16.87" E 17°6'10.24"		Md	0-10	7.5YR 3/3	granular	N/A	0.31	22.5	2.26	10	11.2
					Oa1	10-35	7.5YR 3/2	amorphous	3	0.19	49.8	4.13	12	0.20
					Oa2	35-70	10YR 3/2	amorphous	3	0.21	42.3	3.18	13	3.70
					Lcca	70-110	2.5Y 3/3	massive	N/A	0.20	25.4	1.54	16	24.5
					Oa3	110-125	10YR 2/2	amorphous	3	0.19	36.6	2.83	13	31.3
	P 3	gyttja soil	N 53°4'8.80" E 17°6'18.91"		Md	0-22	10YR 5/4	granular	N/A	0.51	14.6	1.51	10	55.2
					Lcca	22-35	10YR 3/3	massive	N/A	0.45	20.4	1.77	12	60.4
					Oe	35-65	10YR 3/3	amorphous-fibrous	17	0.20	45.6	3.29	14	8.00
					LccaOe	65-110	10YR 2/3	amorphous-fibrous	17	0.26	34.8	2.26	15	30.9
	P 4	gyttja soil	N 53°3'55.40" E 17°6'16.12"		Md	0-20	10YR 6/3	granular	N/A	0.46	16.1	1.63	10	44.9
					Lcca1	20-50	10YR 6/3 10YR 4/6	amorphous	N/A	0.36	16.1	1.39	12	66.3
					Lcca2	50-90	10YR 3/4	amorphous	N/A	0.25	25.1	1.91	13	49.9
					LccaOa	90-120	10YR 3/2	amorphous	8	0.24	34.0	2.44	14	34.0
	P 5	gyttja soil	N 53°3'47.86" E 17°6'23.79"		Md	0-23	10YR 4/4	granular	N/A	0.51	16.4	1.74	9	49.9
					LccaOa1	23-35	10YR 4/3 10YR 5/6 10YR 8/3	amorphous-massive	N/A	0.39	17.9	1.59	11	59.2
					LccaOa2	35-70	10YR 3/2 10YR 4/3	amorphous-massive	4	0.41	24.1	1.78	14	38.5
					LccaOa3	70-110	2.5YR 5/1 2.5YR 4/2	amorphous-massive	3	0.40	26.9	2.07	13	50.0
	P 6	murshic soil	N 53°3'32.87" E 17°6'24.80"		Md	0-13	7.5YR 4/3	granular	N/A	0.49	16.1	1.67	10	50.6
					M	13-30	7.5YR 4/4 7.5YR 5/6	granular	N/A	0.43	14.5	1.50	10	52.3
Lcca1					30-40	7.5YR 4/2 5YR 7/1 5YR 5/4	massive	N/A	0.25	18.4	1.49	12	52.4	
Lcca2					40-55	7.5YR 4/3	massive	N/A	0.26	32.5	2.70	12	26.3	
Oe1					55-80	7.5YR 3/3	amorphous-fibrous	17	0.15	52.1	3.55	15	0.20	
Oe2					80-120	7.5YR 3/3	amorphous-fibrous	30	0.14	52.1	3.58	15	-	
IV	P 1	peat soil	N 53°4'10.35" E 17°6'56.26"		Md	0-15	10YR 2/3	granular	N/A	0.34	19.0	1.93	10	3.50
					Oe1	15-30	10YR 2/2	amorphous-fibrous	38	0.23	49.6	4.41	11	-
					Oe2	30-60	10YR 2/2	amorphous-fibrous	19	0.14	50.4	4.03	13	-
					Oe3	60-80	10YR 2/1	amorphous-fibrous	17	0.15	45.3	3.66	12	-
					Oe4	80-110	10YR 2/1	amorphous-fibrous	18	0.18	42.0	2.83	15	-
					Oa1Lcca	110-150	10YR 2/2	amorphous	3	0.23	18.2	1.40	13	58.8
					Oa2Lcca	150-180	10YR 1/1	amorphous	2	0.22	31.6	2.18	14	32.4
	P 2	peat soil	N 53°4'2.77" E 17°7'4.93"		Md	0-15	7.5YR 2/3	granular	N/A	0.35	19.9	1.90	10	42.5
					Oe1Lcca	15-30	10YR 3/2	amorphous-spongy	25	0.36	26.2	2.22	12	41.5
					Oe2Lcca	30-80	10YR 2/2	amorphous-spongy	29	0.23	28.3	2.10	13	40.2
					Oe3Lcca	80-110	10YR 2/2	amorphous-spongy	36	0.20	33.3	2.06	16	34.5
					Oe4Lcca	110-180	10YR 2/1	amorphous-spongy	21	0.21	38.0	2.63	14	24.6
	P 3	peat soil	N 53°3'48.36" E 17°7'9.77"		Md	0-17	10YR 3/4	granular	N/A	0.48	13.6	1.42	10	55.5
					Oa1Lcca	17-45	10YR 4/6	amorphous	13	0.20	21.0	1.92	11	49.6
					OeLcca	45-70	10YR 3/4	amorphous-spongy	22	0.19	30.6	2.44	13	35.4
					Oa2Lcca	70-95	10YR 3/3	amorphous-spongy	13	0.21	28.0	2.01	14	43.9
	P 4	gyttja soil	N 53°3'43.39" E 17°7'0.06"		Md	0-15	10YR 3/3	granular	N/A	0.44	13.3	0.96	14	42.3
					Lcca	15-40	10YR 5/4	massive	N/A	0.30	13.7	1.41	10	63.1
					LccaOa1	40-80	10YR 4/4	amorphous	17	0.24	20.0	1.62	12	57.3
					LccaOa2	80-100	10YR 3/2	amorphous	5	0.23	27.4	2.12	13	41.7
	P 5	gyttja soil	N 53°3'33.62" E 17°7'1.13"		Md	0-15	10YR 3/3	granular	N/A	0.44	12.6	1.10	11	43.1
					Oe	15-40	10YR 5/4	amorphous-fibrous	17	0.48	20.7	1.32	16	10.4
					LccaOe1	40-75	10YR 4/4	amorphous-spongy	19	0.23	18.0	1.38	13	63.4
					LccaOe2	75-120	10YR 3/2	amorphous-spongy	19	0.22	20.3	1.68	12	62.3
P 6	gyttja soil	N 53°3'25.09" E 17°7'9.89"		LccaOe3	120-150	10YR 3/2	amorphous-spongy	19	0.21	17.1	1.33	13	62.9	
				Md	0-17	10YR 3/3	granular	N/A	0.69	12.2	1.03	12	22.2	
				Lcca1	17-30	10YR 5/4	amorphous	N/A	0.65	13.5	0.92	15	33.3	
				Lcca2	30-45	10YR 4/4	amorphous	N/A	0.25	13.9	1.25	11	41.4	
				LccaOe1	45-80	10YR 3/2	amorphous-spongy	19	0.21	26.0	1.83	14	46.5	
P 6	gyttja soil	N 53°3'25.09" E 17°7'9.89"		LccaOe2	80-130	10YR 3/2	amorphous-spongy	21	0.20	28.6	2.00	14	37.0	
				Oe	130-160	10YR 3/3	amorphous-fibrous	17	0.17	48.9	3.44	14	8.30	

Explanation: N/A – not analyzed, FC – fiber content after rubbing, TOC – total organic carbon TN – total nitrogen, CaCO<sub>3</sub> – calcium carbonate, determined according to the Scheibler's method