

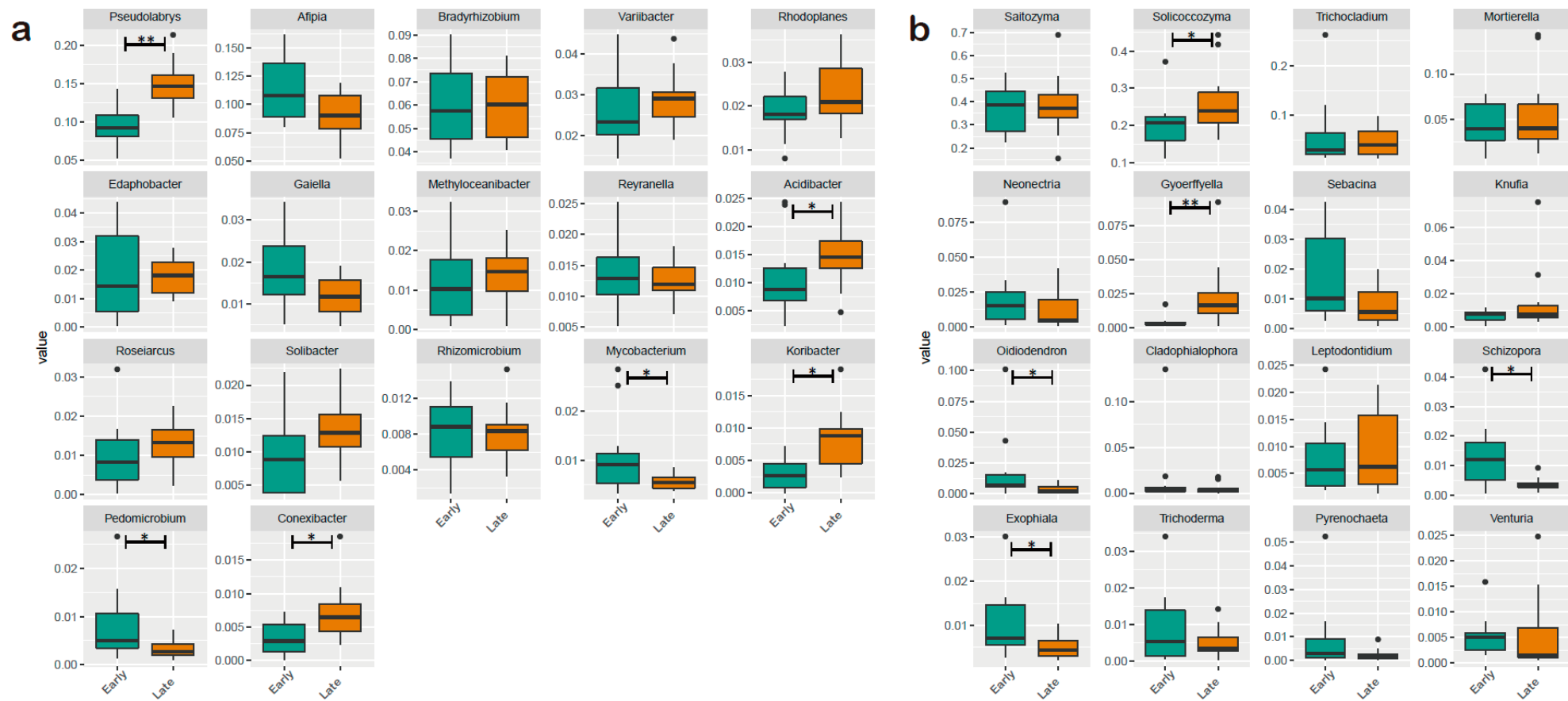


Figure S1. Comparison of relative abundance of (a) bacterial and (b) fungal genera between successional stages of Odaesan National Park. Significant difference was tested using the Wilcoxon test (*: $p < 0.05$; **: $p < 0.01$)

Table S1. Geographic information and alpha diversity analysis of soil samples from Odaesan.

Successional stage	Collection point	Geographic location	Collection date	Alpha diversity							
				Bacteria				Fungi			
				OTUs	Chao 1	Shannon	Simpson	OTUs	Chao 1	Shannon	Simpson
Early stage	Point 1	37°47'10"N128°33'26"E	April 2013	786	1314.6	8.828	0.994	568	837.1	7.038	0.973
			September 2013	702	1087.5	8.635	0.994	439	610.5	6.602	0.975
	Point 6	37°47'29"N128°33'58"E	April 2013	606	843.7	8.349	0.993	404	653.1	6.294	0.968
			September 2013	758	1117.0	8.804	0.995	543	740.4	7.345	0.987
	Point 7	37°46'53"N128°34'31"E	September 2013	697	1066.6	8.541	0.993	540	796.3	6.915	0.979
	Point 11	37°46'26"N128°35'01"E	April 2013	516	843.9	7.843	0.989	385	536.3	6.401	0.970
			September 2013	666	1094.2	8.430	0.993	467	638.1	6.668	0.974
	Point 12	37°46'14"N128°34'40"E	April 2013	697	1026.0	8.444	0.989	403	570.2	6.217	0.971
			September 2013	721	1134.0	8.620	0.994	517	663.5	7.050	0.982
	Point 13	37°44'56"N128°35'02"E	April 2013	654	1004.6	8.401	0.990	491	638.7	6.652	0.961
September 2013			623	809.8	8.442	0.993	503	662.1	7.294	0.987	
Late stage	Point 2	37°47'40"N128°32'37"E	April 2013	668	1039.5	8.370	0.991	469	655.9	6.963	0.980
			September 2013	760	1180.8	8.811	0.995	362	486.1	6.664	0.977
	Point 3	37°48'10"N128°32'53"E	April 2013	658	1071.8	8.360	0.993	490	671.8	6.415	0.961
			September 2013	662	1100.1	8.273	0.991	337	493.9	5.271	0.936
	Point 4	37°48'31"N128°33'19"E	April 2013	646	976.2	8.486	0.994	507	757.6	7.298	0.987
			September 2013	671	1060.5	8.506	0.994	309	412.5	6.112	0.964
	Point 5	37°48'24"N128°33'47"E	April 2013	657	1056.6	8.304	0.992	533	822.8	7.170	0.983
			September 2013	601	992.1	8.050	0.990	468	666.4	6.473	0.969
	Point 8	37°49'14"N128°34'58"E	April 2013	706	1210.4	8.464	0.993	483	646.2	6.696	0.976
			September 2013	659	1062.1	8.408	0.993	415	529.5	6.738	0.977
	Point 9	37°48'37"N128°35'40"E	April 2013	619	1039.1	8.205	0.991	427	583.0	6.684	0.979
			September 2013	582	949.6	8.046	0.990	341	517.5	5.624	0.950
	Point 10	37°46'27"N128°35'57"E	April 2013	611	985.7	8.080	0.990	377	471.3	6.472	0.974
			September 2013	678	1211.3	8.333	0.992	350	443.0	6.139	0.950

Table S2. Environmental fit analysis between the soil properties and microbial communities in Odaesan National Park.

Community	Environmental variables	NMDS1	NMDS2	R ²	Pr(>r)
Bacteria	Elevation	0.649	0.761	0.617	0.001
	Water content (WC)	0.712	0.703	0.589	0.001
	pH	-0.993	-0.119	0.924	0.001
	Total carbon (TC)	0.949	0.316	0.533	0.001
	Total nitrogen (TN)	0.840	0.542	0.595	0.001
Fungi	Elevation	0.905	-0.426	0.765	0.001
	Water content (WC)	0.600	-0.800	0.550	0.001
	pH	-0.897	0.442	0.499	0.001
	Total carbon (TC)	0.550	-0.835	0.390	0.002
	Total nitrogen (TN)	0.489	-0.872	0.565	0.001