

Supplementary Materials

Table S1. Abundance of dominant phyla in the three land use types.

A Layer	Proteobacteria	Verrucomicrobia	Acidobacteria	Actinobacteria	Bacteroidetes	Chloroflexi	Gemmatimonadetes	Planctomycetes	Nitrospirae	Latescibacteria	Firmicutes	Saccharibacteria	
WLA	28.22 ± 2.84a	30.01 ± 5.24a	21.33 ± 0.95b	5.89 ± 0.89b	5.50 ± 0.70b	2.36 ± 0.29b	1.26 ± 0.22b	1.64 ± 0.13a	1.15 ± 0.15a	0.66 ± 0.20b	0.55 ± 0.16a	0.17 ± 0.02b	
SLA	25.11 ± 1.13a	34.50 ± 2.81a	19.81 ± 0.89b	6.52 ± 0.32b	5.45 ± 0.97b	2.81 ± 0.37b	1.27 ± 0.11b	1.40 ± 0.12a	0.94 ± 0.06a	0.34 ± 0.06b	0.56 ± 0.25a	0.16 ± 0.01b	
GLA	25.73 ± 1.70a	8.00 ± 0.69b	25.04 ± 1.12a	10.70 ± 0.67a	10.56 ± 1.59a	9.40 ± 1.86a	3.55 ± 0.04a	1.53 ± 0.23a	1.21 ± 0.26a	1.51 ± 0.29a	0.44 ± 0.06a	0.47 ± 0.06a	
B Layer	Verrucomicrobia	Acidobacteria	Proteobacteria	Chloroflexi	Actinobacteria	Bacteroidetes	Gemmatimonadetes	Nitrospirae	Planctomycetes	Latescibacteria	Firmicutes	Saccharibacteria	Chlamydiae
WLB	34.65 ± 4.89a	21.13 ± 1.44a	22.28 ± 1.89a	4.69 ± 1.09a	5.96 ± 0.8b	3.30 ± 0.52a	1.25 ± 0.24b	2.00 ± 0.31a	1.60 ± 0.06a	1.06 ± 0.38a	0.50 ± 0.07a	0.16 ± 0.03a	0.15 ± 0.02a
SLB	25.62 ± 5.13ab	22.99 ± 0.98a	17.90 ± 1.59a	14.59 ± 5.94a	6.52 ± 0.94b	2.63 ± 0.26a	2.55 ± 0.47ab	2.67 ± 0.54a	1.30 ± 0.05a	0.90 ± 0.26a	0.28 ± 0.04b	0.25 ± 0.01a	0.28 ± 0.15a
GLB	12.28 ± 2.25b	21.00 ± 0.95a	22.09 ± 1.62a	14.22 ± 2.49a	10.74 ± 0.75a	4.98 ± 1.99a	4.44 ± 0.99a	3.16 ± 1.25a	1.76 ± 0.34a	2.39 ± 0.63a	0.41 ± 0.06ab	0.29 ± 0.09a	0.13 ± 0.03a

Note: Data are the means ± standard error; different lowercase letters (a and b) in the same column represent a significant difference from the different sample points at the same soil layer ($p < 0.05$).

Table S2. Spearman's correlations showing the relationship between soil physicochemical parameters and dominant OTUs in the A layer.

A Layer	TP	TN	SOC	AK	T	EC	E-Mg
OTU2	-0.728 *					-0.798 **	
OTU26		-0.708 *	-0.709 *	0.827 **	0.717 *	0.930 **	0.717 *
OTU1				-0.681 *		-0.791 *	
OTU52	-0.686 *					-0.775 *	
OTU31			0.675 *	-0.686 *	-0.689 *	-0.757 *	-0.689 *
OTU823		0.798 **	0.808 **	-0.781 *	-0.825 **	-0.831 **	-0.824 **
OTU2312		0.819 **	0.802 **	-0.764 *	-0.815 **	-0.674 *	-0.815 **
OTU4						-0.666 *	
OTU9	-0.757 *	0.667 *	0.686 *	-0.834 **	-0.704 *	-0.702 *	-0.704 *
OTU13	0.672 *	-0.787 *	-0.775 *	0.828 **	0.779 *	0.910 **	0.779 *
OTU27		-0.671 *			0.669 *	0.807 **	0.669 *
OTU6				0.774 *			
OTU10	-0.670 *					-0.759 *	
OTU58		-0.848 **	-0.769 *		0.703 *		0.703 *
OTU37		-0.779 *	-0.707 *		0.680 *	0.818 **	0.680 *
OTU410	-0.774 *		0.675 *	-0.732 *	-0.683 *	-0.922 **	-0.683 *
OTU24	-0.699 *	0.729 *	0.718 *	-0.675 *	-0.702 *	-0.775 *	-0.702 *
OTU12	-0.728 *			-0.712 *	-0.703 *	-0.931 **	-0.703 *
OTU21		0.771 *	0.857 **	-0.770 *	-0.923 **	-0.782 *	-0.923 **
OTU17		-0.687 *					
OTU368		-0.677 *			0.720 *		0.720 *
OTU47		-0.777 *	-0.750 *	0.797 *	0.741 *	0.903 **	0.741 *
OTU54		-0.721 *	-0.709 *	0.736 *	0.699 *	0.707 *	0.699 *
OTU38						0.716 *	
OTU143	-0.796 *					-0.823 **	
OTU123		-0.893 **	-0.861 **	0.731 *	0.795 *	0.792 *	0.795 *
OTU161		-0.852 **	-0.793 *		0.752 *	0.753 *	0.752 *
OTU30		-0.728 *				0.737 *	
OTU55				0.698 *			
OTU33		-0.719 *	-0.672 *		0.721 *		0.721 *
OTU25	0.737 *	-0.704 *	-0.710 *	0.878 **	0.678 *	0.709 *	0.678 *
OTU74		-0.748 *			0.713 *	0.854 **	0.713 *

Note: Significance levels are denoted as follows: $p < 0.05$ (*) and $p < 0.01$ (**).

Table S3. Spearman's correlations showing the relationship between the soil physicochemical parameters and dominant OTUs in the B layer.

B Layer	TP	TN	SOC	AK	pH	T	Moisture	EC	E-Ca	E-Mg
OTU2			0.710 *	-0.729 *		-0.773 *				-0.774 *
OTU1						-0.699 *				-0.699 *
OTU823				-0.789 *						
OTU31			0.750 *	-0.696 *		-0.799 **	0.751 *			-0.799 **
OTU10	-0.678 *			-0.676 *				-0.908 **		
OTU11	-0.670 *	-0.688 *								
OTU2312		0.841 **	0.925 **			-0.761 *	0.840 **			-0.761 *
OTU52		0.835 **	0.847 **							

OTU16	-0.719 *	-0.687 *			
OTU8	0.856 **				
OTU3	0.669 *			0.688 *	
OTU27				0.668 *	
OTU15	-0.711 *	-0.677 *			
OTU9	0.686 *	0.800 **		-0.711 *	0.741 *
OTU71			0.857 **	0.815 **	-0.711 *
OTU7	0.675 *	0.680 *			0.815 **
OTU772			-0.718 *		
OTU200				-0.668 *	
OTU53			0.787 *		0.785 *
OTU54	0.937 **		0.854 **		
OTU114				-0.678 *	
OTU2858				-0.777 *	
OTU21	0.771 *	0.826 **		-0.689 *	0.842 **
					-0.689 *

Note: Significance levels are denoted as follows: $p < 0.05$ (*) and $p < 0.01$ (**).

