

Table S2 Correlations among soil parameters and biodiversity metrics. Values shown represent Kendall's tau rank correlation coefficient (τ), with Bonferroni correction. Subscripts show the degrees of freedom of Student's t tests against zero; p indicates the associated probability. Significant values are highlighted in bold. Data for building this table excluded outliers. Biodiversity metrics are shown in order of appearance in the main text. OM stands for organic matter.

Biodiversity metric	pH	C (%)	OM _{oxidizable} (%)	OM _{total} (%)	N (%)	C:N	P ₂ O ₅ (mg/Kg)
Richness	$\tau =$ 0.35; $t_{103} =$ 3.76; p = 0.02	$\tau =$ 0.37; $t_{103} =$ 4.01; p = 0.01	$\tau =$ 0.33; $t_{103} =$ 3.50; p = 0.04	$\tau =$ 0.33; $t_{103} =$ 3.58; p = 0.03	$\tau =$ 0.35; $t_{103} =$ 3.82; p = 0.01	$\tau = -$ 0.03; $t_{103} = -$ 0.33; p $= 1.00$	$\tau = -0.13;$ $t_{103} = -$ 1.40; $p =$ 1.00
Taxonomic diversity	$\tau =$ 0.18; $t_{103} =$ 1.95; p $= 1.00$	$\tau =$ 0.22; $t_{103} =$ 2.29; p $= 1.00$	$\tau =$ 0.18; $t_{103} =$ 1.91; p $= 1.00$	$\tau =$ 0.19; $t_{103} =$ 1.92; p $= 1.00$	$\tau =$ 0.22; $t_{103} =$ 2.30; p $= 1.00$	$\tau = -$ 0.15; $t_{103} = -$ 1.54; p $= 1.00$	$\tau = -0.08;$ $t_{103} = -$ 0.84; $p =$ 1.00
Functional diversity	$\tau =$ 0.08; $t_{103} =$ 0.79; p $= 1.00$	$\tau =$ 0.20; $t_{103} =$ 2.06; p $= 1.00$	$\tau =$ 0.19; $t_{103} =$ 1.94; p $= 1.00$	$\tau =$ 0.18; $t_{103} =$ 1.88; p $= 1.00$	$\tau =$ 0.18; $t_{103} =$ 1.86; p $= 1.00$	$\tau = -$ 0.09; $t_{103} = -$ 0.90; p $= 1.00$	$\tau = -0.15;$ $t_{103} = -$ 1.54; $p =$ 1.00
Phylogenetic divergence (mntd)	$\tau = -$ 0.51; $t_{103} = -$ 6.01; p < 0.01	$\tau = -$ 0.29; $t_{103} = -$ 3.11; p = 0.01	$\tau = -$ 0.30; $t_{103} = -$ 3.18; p < 0.01	$\tau = -$ 0.31; $t_{103} = -$ 3.29; p < 0.01	$\tau = -$ 0.32; $t_{103} = -$ 3.40; p $= 0.07$	$\tau = -$ 0.11; $t_{103} = -$ 1.16; p $= 1.00$	$\tau = 0.21;$ $t_{103} = 2.18;$ $p = 1.00$
Rarefied richness to the median number of sequences	$\tau =$ 0.18; $t_{103} =$ 1.83; p $= 1.00$	$\tau =$ 0.20; $t_{103} =$ 2.04; p $= 1.00$	$\tau =$ 0.17; $t_{103} =$ 1.78; p $= 1.00$	$\tau =$ 0.18; $t_{103} =$ 1.85; p $= 1.00$	$\tau =$ 0.18; $t_{103} =$ 1.89; p $= 1.00$	$\tau = -$ 0.05; $t_{103} = -$ 0.50; p $= 1.00$	$\tau = -0.13;$ $t_{103} = -$ 1.30; $p =$ 1.00
Rarefied richness to the minimum number of sequences	$\tau =$ 0.25; $t_{103} =$ 2.64; p $= 0.54$	$\tau =$ 0.33; $t_{103} =$ 3.60; p $= 0.04$	$\tau =$ 0.29; $t_{103} =$ 3.05; p $= 1.00$	$\tau =$ 0.30; $t_{103} =$ 3.15; p $= 0.12$	$\tau =$ 0.32; $t_{103} =$ 3.40; p $= 0.05$	$\tau = -$ 0.07; $t_{103} = -$ 0.77; p $= 1.00$	$\tau = -0.07;$ $t_{103} = -$ 0.69; $p =$ 1.00
Faith's phylogenetic diversity index (pd)	$\tau =$ 0.18; $t_{103} =$ 1.86; p $= 1.00$	$\tau =$ 0.17; $t_{103} =$ 1.73; p $= 1.00$	$\tau =$ 0.12; $t_{103} =$ 1.19; p $= 1.00$	$\tau =$ 0.12; $t_{103} =$ 1.23; p $= 1.00$	$\tau =$ 0.17; $t_{103} =$ 1.78; p $= 1.00$	$\tau = -$ 0.14; $t_{103} = -$ 1.46; p $= 1.00$	$\tau = -0.05;$ $t_{103} = -$ 0.49; $p =$ 1.00
Mean nearest taxon distance (mpd)	$\tau = -$ 0.39; $t_{103} = -$ 4.31; p < 0.01	$\tau = -$ 0.35; $t_{103} = -$ 3.81; p $= 0.13$	$\tau = -$ 0.37; $t_{103} = -$ 4.06; p $= 0.11$	$\tau = -$ 0.38; $t_{103} = -$ 4.12; p $= 0.08$	$\tau = -$ 0.31; $t_{103} = -$ 3.31; p $= 0.57$	$\tau = -$ 0.09; $t_{103} = -$ 0.97; p $= 1.00$	$\tau = 0.18;$ $t_{103} = 1.85;$ $p = 1.00$