Table S1. Mean and contribution rate of topography factors, soil factors，species diversity factors and structural diversity factors variables of each 10 m × 10 m quadrat and Correlation between them with the PCA axes.

	Topography PCA	
	Axis 1	Axis 2
Proportion of Variance (%)	31.53	30.21
Cumulative Proportion (%)	31.53	61.47
Elevation (ELE) (m)	-0.063	-0.865
Slope (SLO) (°)	-0.591	-0.478
Cos (Aspect) (ASP)	0.768	-0.267
Convexity (CON)	0.467	-0.632
Rock outcrop ratio (ROR) (%)	0.645	0.252
	Soil factors PCA	
	Axis 1	Axis 2
Proportion of Variance (%)	77.26	15.38
Cumulative Proportion (%)	77.26	93.01
pH	-0.882	-0.133
SOM	-0.984	-0.094
TN	-0.990	-0.053
TP	-0.924	0.220
TK	0.084	0.989
AN	-0.984	-0.088
AP	-0.961	-0.113
AK	-0.855	0.392
	Species diversity PCA	
	Axis 1	Axis 2
Proportion of Variance (%)	74.45	22.43
Cumulative Proportion (%)	74.45	96.88
R	-0.837	0.514
H'	-0.972	0.213
D	-0.962	-0.160
E	-0.647	-0.745
	Structural diversity PCA	
	Axis 1	Axis 2
Proportion of Variance (%)	49.98	26.30
Cumulative Proportion (%)	49.98	76.28
SD_{ba}	-0.939	0.258
CV_{ba}	-0.951	0.213
$H'ba$	-0.312	-0.698
Stand density (DEN)	-0.339	-0.673