

Supplementary table 1 The cross-species pairs of dominant bryophyte species at different elevations in urban areas were  $\chi^2$  test matrix

1																E1
0.882	2															
-0.025	-0.430	3														
1.637	3.289	-0.494	4													
-0.148	-2.508	0.785	-2.881	5												
-0.280	-4.732	-0.280	-3.656	-1.637	6											
-0.055	3.503	-0.055	-1.074	-0.323	-0.610	7										
-0.433	-7.320	-0.434	-8.408	-2.178	1.799	-0.944	8									
-0.171	-1.845	-0.172	-2.338	-1.002	2.926	-0.374	-2.926	9								
-0.195	1.521	1.443	2.886	2.002	-2.148	-0.424	-2.745	-0.837	10							
-0.218	-0.646	0.484	7.391	-0.034	-1.719	-0.476	-3.727	-0.399	3.211	11						
-0.040	-0.669	-0.040	2.162	-0.231	-0.437	-0.086	-0.676	-0.267	-0.304	-0.341	12					
-0.278	3.126	-0.279	8.945	-1.629	-3.073	-0.607	-4.753	-1.882	-0.814	0.269	2.381	13				
-0.165	-2.800	0.511	-3.216	4.894	0.261	-0.361	-2.827	0.332	0.180	-0.392	-0.258	-1.818	14			
-0.042	-0.704	-0.042	-0.808	-0.243	0.689	-0.091	1.005	-0.281	-0.320	-0.358	-0.065	-0.457	-0.272	15		
0.370	-1.678	0.625	-0.314	2.024	-1.997	-0.395	-0.238	-1.223	1.069	0.999	0.450	-0.481	1.779	-0.297	16	
1																E2
-0.072	2															
-0.080	-0.097	3														
-0.006	0.535	-0.160	4													
-0.138	0.005	-0.017	-0.259	5												
-0.112	-0.135	-0.073	-0.206	-0.085	6											
-0.045	-0.055	-0.061	-0.091	-0.105	0.453	7										
0.098	-0.096	-0.106	-0.023	-0.068	-0.110	-0.060	8									
-0.045	-0.055	-0.061	-0.091	-0.029	0.092	-0.034	-0.060	9								
-0.075	0.473	-0.101	0.269	0.066	-0.140	-0.057	-0.100	-0.057	10							
-0.066	0.225	-0.088	0.090	-0.152	-0.123	-0.050	0.735	-0.050	0.218	11						
-0.045	-0.055	0.345	-0.091	-0.105	-0.085	-0.034	-0.060	-0.034	-0.057	-0.050	12					
-0.056	-0.067	-0.074	0.040	-0.129	0.573	-0.042	-0.074	-0.042	-0.070	-0.061	-0.042	13				
-0.081	-0.098	0.043	-0.162	-0.043	-0.049	-0.062	-0.108	-0.062	-0.102	-0.089	-0.062	-0.075	14			
-0.061	0.352	-0.082	0.225	-0.014	-0.114	-0.046	0.092	-0.046	0.625	0.256	-0.046	-0.057	-0.083	15		
-0.029	-0.020	-0.103	0.062	-0.177	-0.143	-0.058	-0.044	-0.058	-0.076	-0.071	-0.058	-0.071	-0.104	-0.078	16	
1																E3
-0.084	2															
-0.034	-0.084	3														
0.553	0.386	-0.024	4													
-0.151	-0.322	-0.151	-0.375	5												
-0.034	-0.084	-0.034	-0.131	0.074	6											
-0.034	0.285	-0.034	-0.131	-0.019	-0.034	7										
-0.100	0.220	-0.100	-0.059	0.031	-0.100	-0.100	8									
-0.034	-0.084	-0.034	-0.070	0.131	-0.034	-0.034	-0.100	9								
-0.079	0.197	-0.079	-0.028	-0.308	-0.079	-0.079	-0.075	-0.079	10							
-0.061	-0.052	-0.061	-0.186	-0.092	-0.061	-0.061	-0.078	-0.061	-0.021	11						
-0.034	-0.084	-0.034	-0.070	0.131	-0.034	-0.034	-0.100	1.000	-0.079	-0.061	12					
-0.062	0.297	-0.062	0.175	0.121	-0.062	-0.062	0.222	0.635	-0.141	-0.109	0.635	13				
-0.034	-0.084	-0.034	0.148	-0.151	-0.034	-0.034	-0.100	-0.034	0.113	-0.061	-0.034	-0.062	14			
-0.093	-0.058	0.068	-0.318	-0.265	0.045	0.381	-0.065	-0.093	-0.213	0.118	-0.093	-0.166	-0.093	15		
-0.157	-0.040	-0.157	-0.035	0.206	0.191	-0.157	0.181	-0.157	0.039	-0.155	-0.157	-0.146	-0.157	-0.226	16	

1																
0.104	2															
-0.097	-0.141	3														
0.144	0.102	-0.008	4													
-0.137	-0.145	-0.092	-0.215	5												
-0.135	-0.197	-0.091	-0.212	-0.129	6											
-0.093	0.264	-0.062	-0.163	-0.089	-0.021	7										
-0.070	0.069	-0.047	-0.124	-0.067	-0.066	-0.045	8									
-0.070	0.069	-0.047	-0.124	-0.067	-0.066	-0.045	1.000	9								
0.017	-0.190	-0.002	0.165	0.047	-0.130	0.028	-0.107	-0.107	10							
-0.082	-0.120	-0.055	-0.144	-0.078	-0.077	-0.053	-0.040	-0.040	-0.105	11						
-0.070	-0.103	-0.047	0.008	-0.067	-0.066	-0.045	-0.034	-0.034	-0.107	-0.040	12					
-0.138	0.152	-0.092	-0.166	-0.048	-0.093	-0.007	-0.067	-0.067	-0.042	-0.078	-0.067	13				
0.138	0.001	-0.094	-0.148	0.226	-0.131	-0.090	-0.068	-0.068	0.234	0.547	-0.068	-0.028	14			
-0.070	-0.103	0.880	-0.124	-0.067	-0.066	-0.045	-0.034	-0.034	-0.107	-0.040	-0.034	-0.067	-0.068	15		
0.051	0.135	-0.147	-0.010	0.090	0.031	-0.141	-0.107	-0.107	-0.172	0.092	0.164	-0.178	0.119	-0.107	16	