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Supplementary Table S4. Results of the Kruskal–Wallis test applied to the set of environmental variables across different categories of the *Neotinea ustulata* population trends observed in 2022: extinct (n = 8), decline (n = 7), and stable (n = 18).

Environmental variable	Chi-square	degrees of freedom	p-value
Climate, topography and landscape:			
Mean annual temperature	2.63	2	0.268
Diurnal temperature range	5.00	2	0.082
Annual temperature range	2.47	2	0.291
Annual precipitation amount	5.13	2	0.077
Precipitation in the wettest month	6.19	2	0.045
Precipitation in the driest month	5.99	2	0.050
Precipitation seasonality	2.93	2	0.231
Mean (monthly) climate moisture index	8.74	2	0.013
Vapour pressure deficit	3.26	2	0.196
Elevation	2.06	2	0.357
Inclination	0.60	2	0.743
Heat-load index	0.64	2	0.725
Area of the grassland patch	9.17	2	0.010
Soil and microtopography:			
Soil depth mean	13.95	2	0.001
Soil depth SD	12.50	2	0.002
Max.microrelief	8.00	2	0.018
Stones and rocks cover	0.47	2	0.790
Gravel cover	7.12	2	0.028
Fine soil cover	4.10	2	0.129
Bare ground cover	4.93	2	0.085
Nitrogen	5.67	2	0.059
Potassium	0.19	2	0.908
Phosphorus	5.51	2	0.063
Soil pH (H_2O)	3.97	2	0.137
EC	2.29	2	0.318
Organic matter content	3.05	2	0.218
Soil skeleton content	6.37	2	0.041
Very coarse sand content	4.23	2	0.121
Coarse sand content	3.22	2	0.199
Medium sand content	1.94	2	0.379
Fine sand content	6.80	2	0.033
Very fine sand content	1.95	2	0.377
Coarse silt content	2.12	2	0.347
Fine silt and clay content	0.34	2	0.846

Environmental variable	Chi-square	degrees of freedom	p-value
Vegetation parameters:			
Total vegetation cover	5.70	2	0.058
Herb cover	13.01	2	0.001
Cryptogam cover	1.34	2	0.513
Species richness of vascular plants	0.71	2	0.701
Vegetation height mean	11.32	2	0.003
Vegetation height SD	7.97	2	0.019
M_EIVE	6.87	2	0.032
N_EIVE	14.99	2	0.001
R_EIVE	10.49	2	0.005
L_EIVE	4.75	2	0.093
T_EIVE	3.29	2	0.193
Abandonment and secondary succession:			
Trees and shrubs in surroundings	9.40	2	0.009
Shrub cover	6.93	2	0.031
Litter cover	9.52	2	0.009
Litter thickness	7.94	2	0.019
DCA axes			
DCA1	7.05	2	0.029
DCA2	2.00	2	0.368
DCA3	0.32	2	0.85
DCA4	1.89	2	0.39