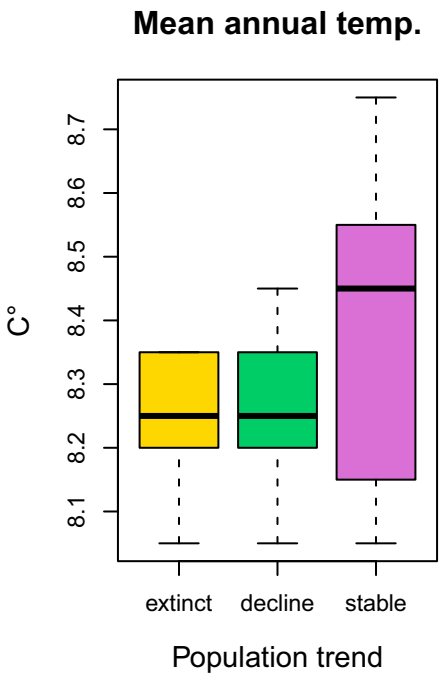
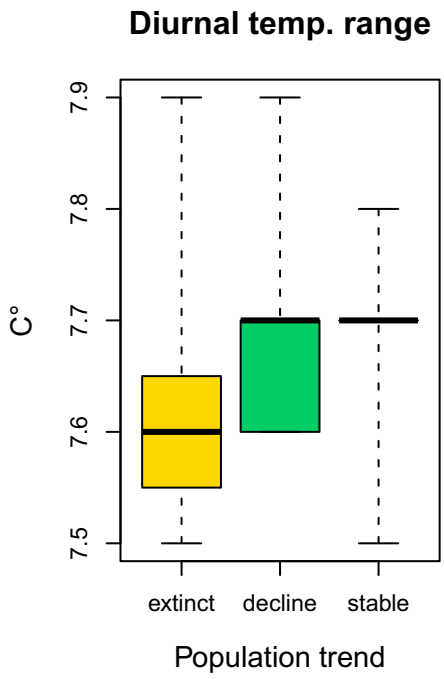
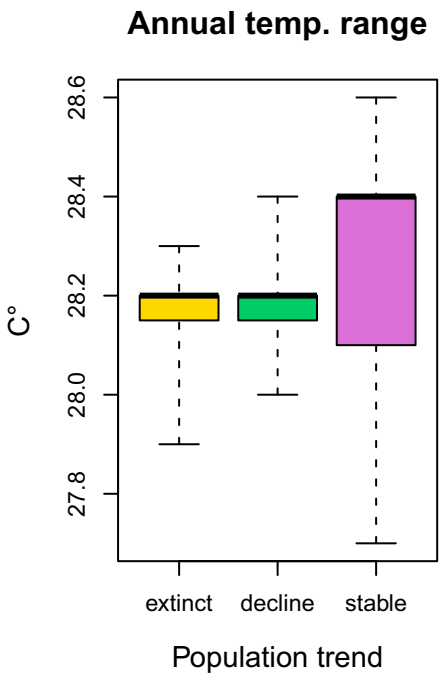
Adamska A., Kozub L., Kucharzyk J., Łazarski G. & Dembicz I. (2025) Habitat extremity promotes the survival of rapidly declining orchid *Neotinea ustulata* in Poland. – Preslia 97: 217–239.

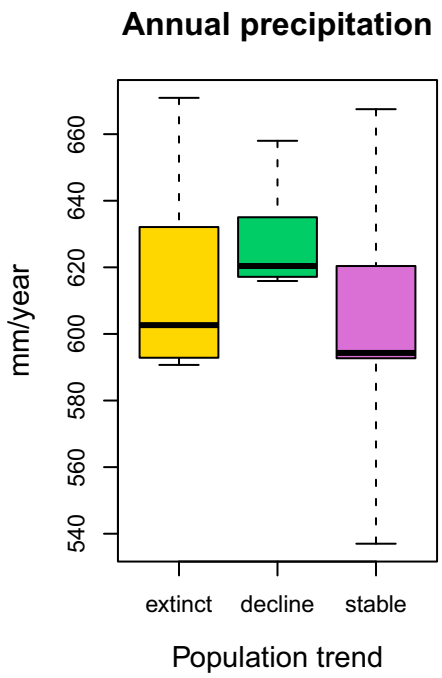
Supplementary Fig. S2. Overview of the environmental variables for different categories of population trends of *Neotinea ustulate*: extinct (n = 8), decline (n = 7), and stable (n = 18), which were rejected by the Boruta feature selection algorithm. Compact Letter Display (CLD) obtained via Dunn's test ($p < 0.05$) shown in gray above boxplots. Please note that vegetation height measures relate only to the herb layer.

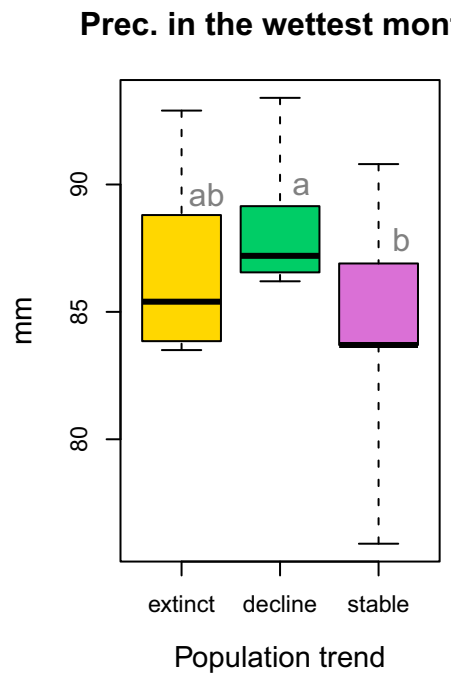
Climate, topography and landscape

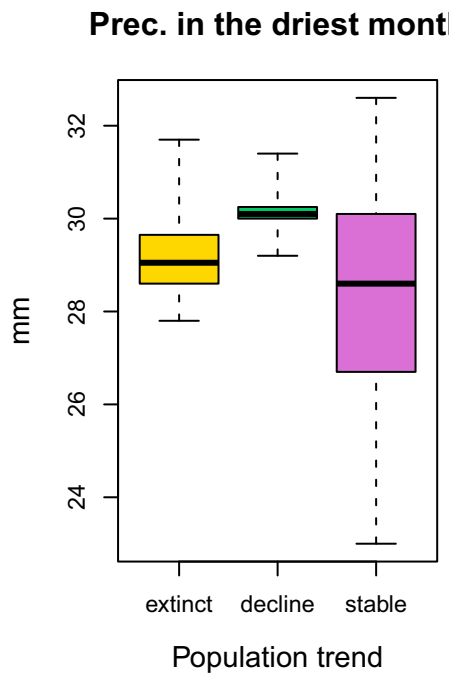


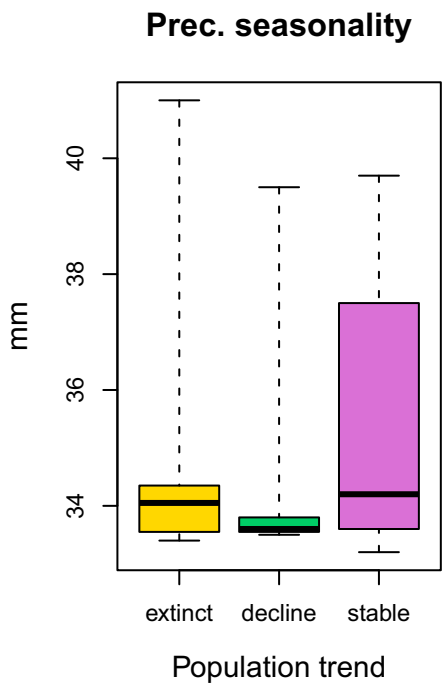


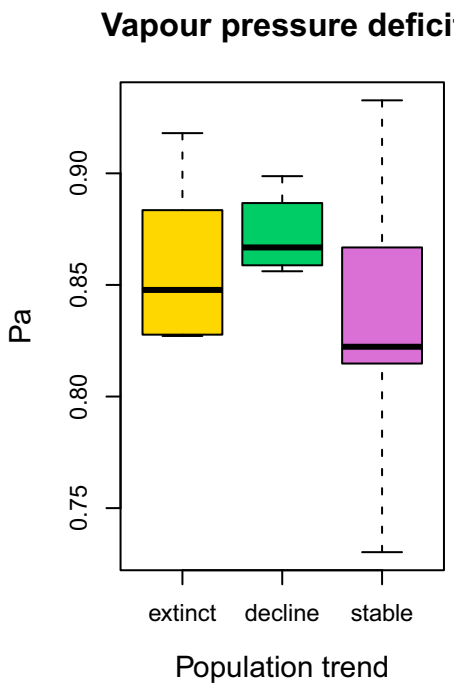


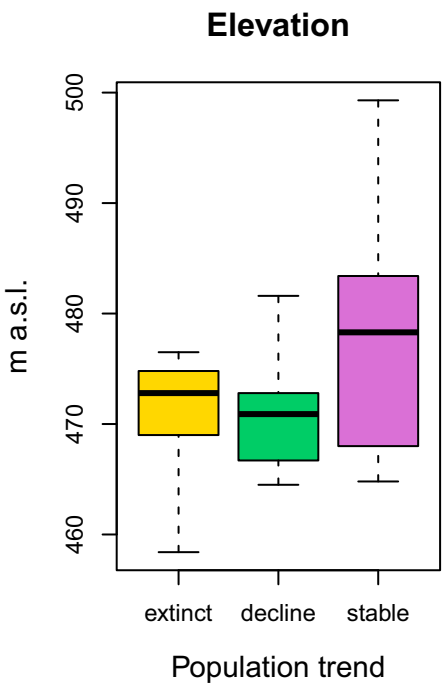


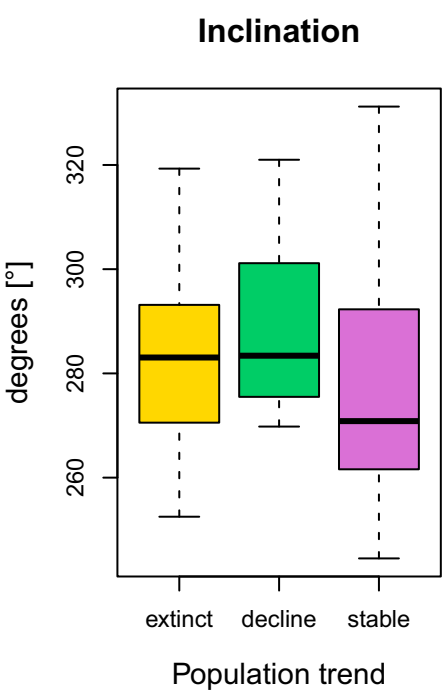


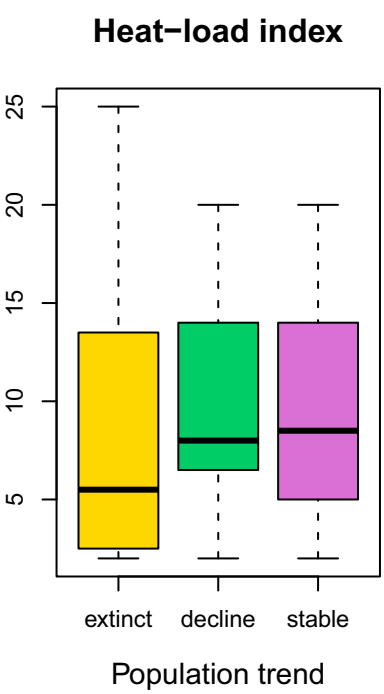



Prec. seasonality
mm
34
36
38
40
extinct
decline
stable
Population trend


Vapour pressure deficit
Pa
0.75
0.80
0.85
0.90
extinct
decline
stable
Population trend

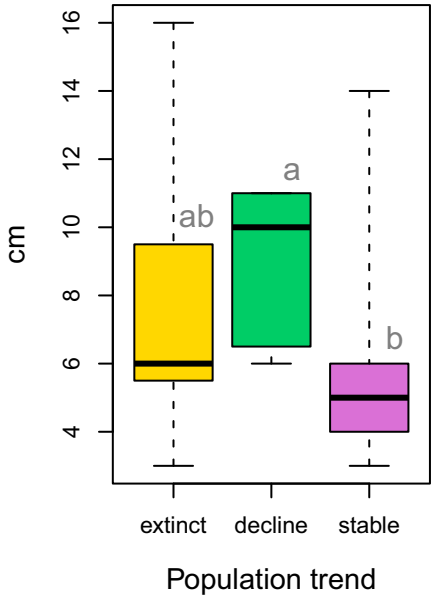

Elevation
m a.s.l.
460
470
480
490
500
extinct
decline
stable
Population trend


Inclination
degrees [°]
260
280
300
320
extinct
decline
stable
Population trend

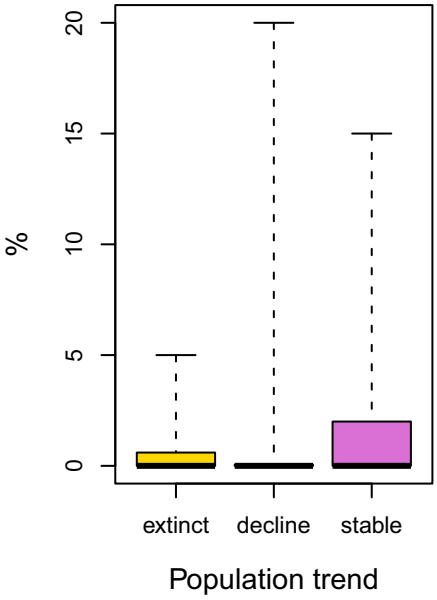

Heat−load index
5
10
15
20
25
extinct
decline
stable
Population trend

Soil and microtopography

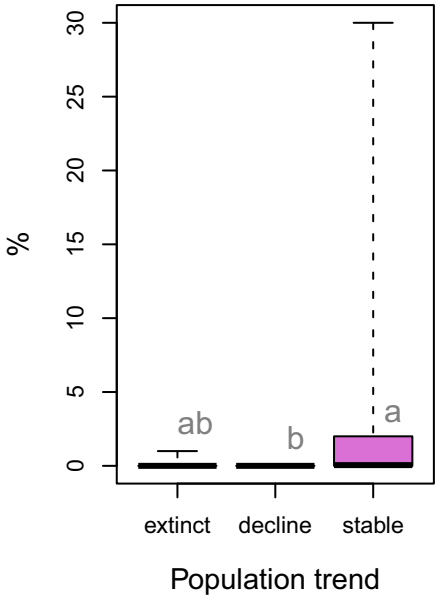
Max. microrelief



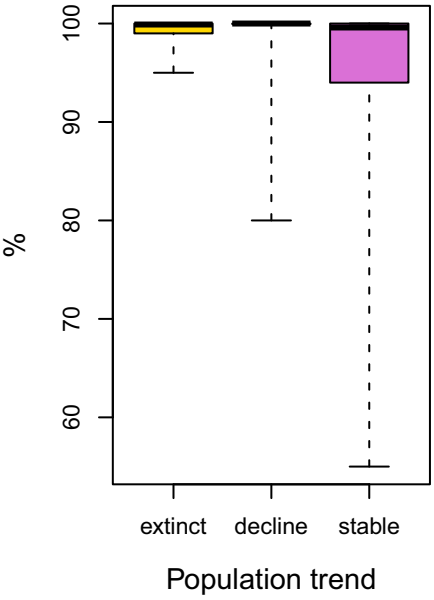
Stones and rocks cover



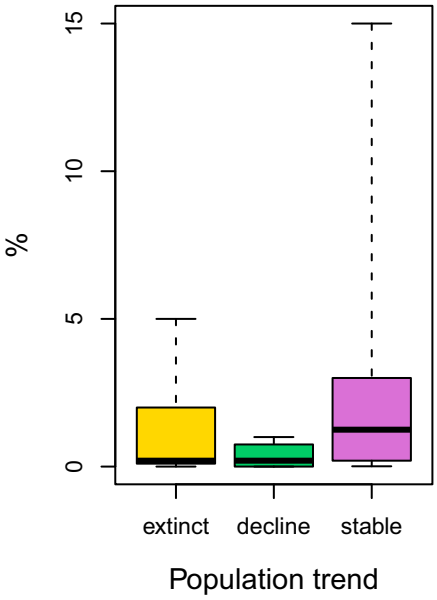
Gravel cover



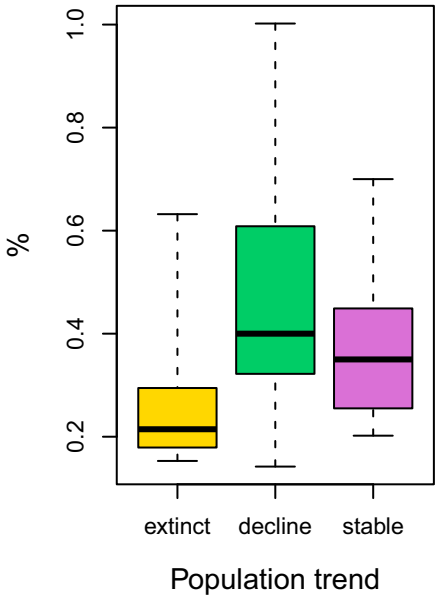
Fine soil cover

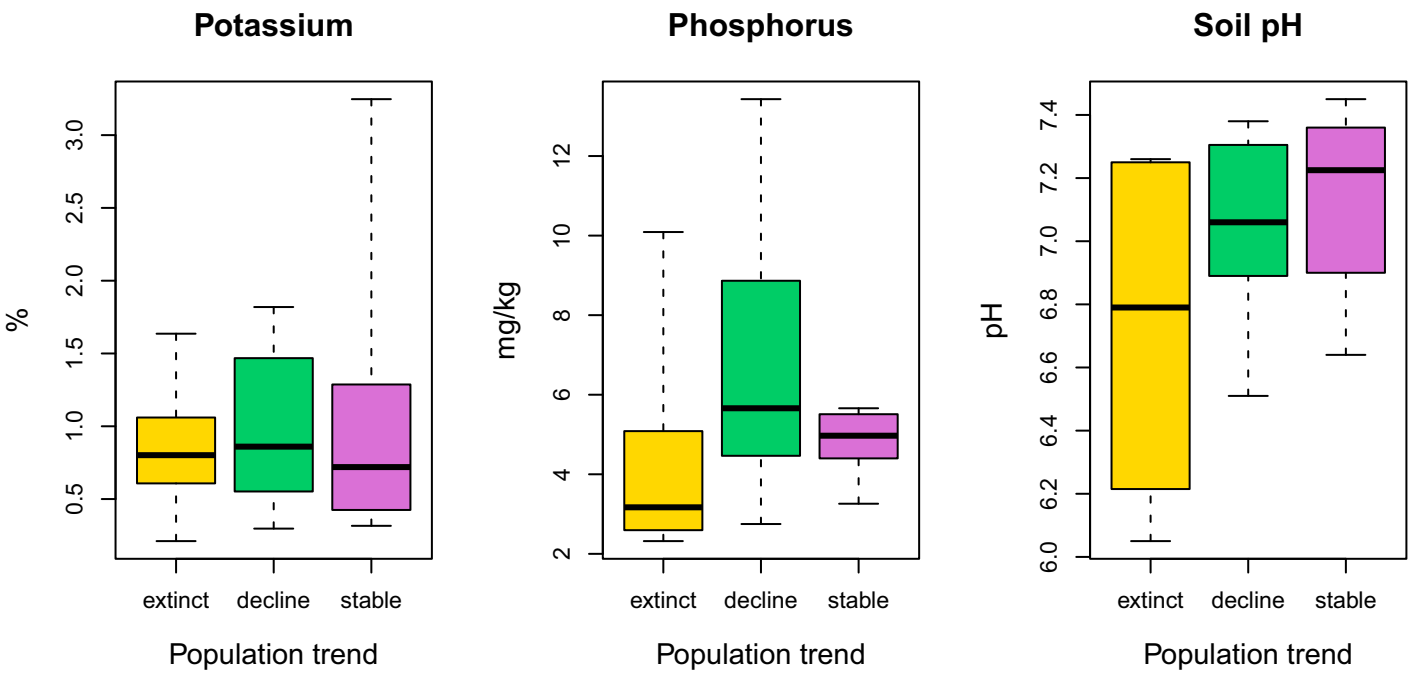


Bare ground cover



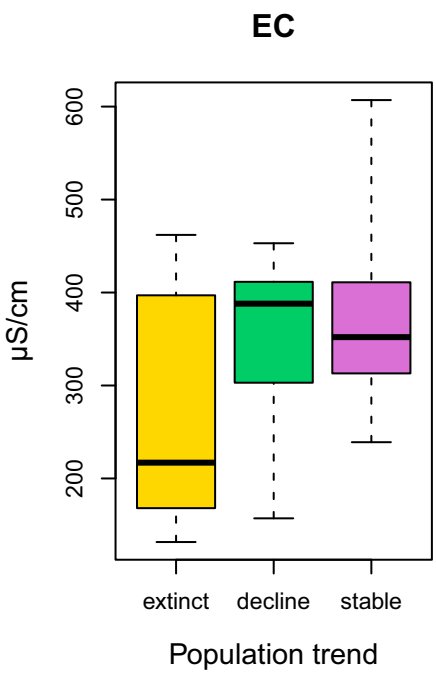
Nitrogen

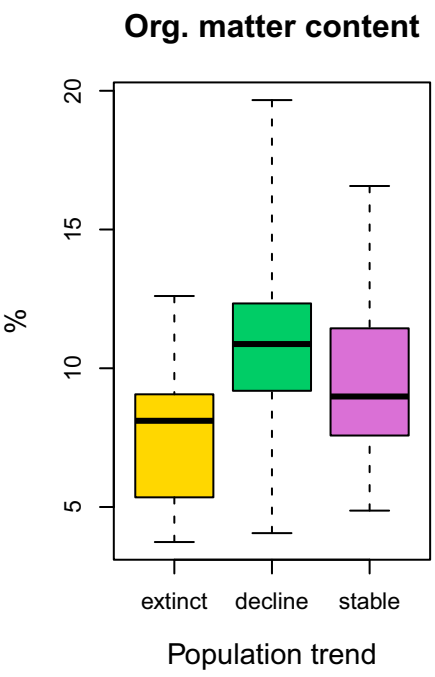


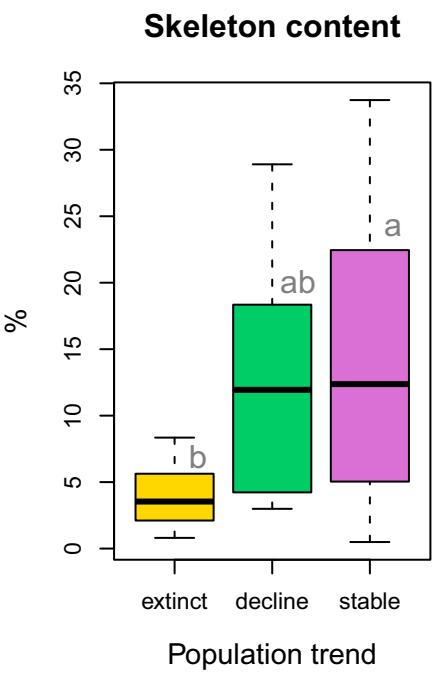

Potassium
%
0.5
1.0
1.5
2.0
2.5
3.0
extinct
decline
stable
Population trend

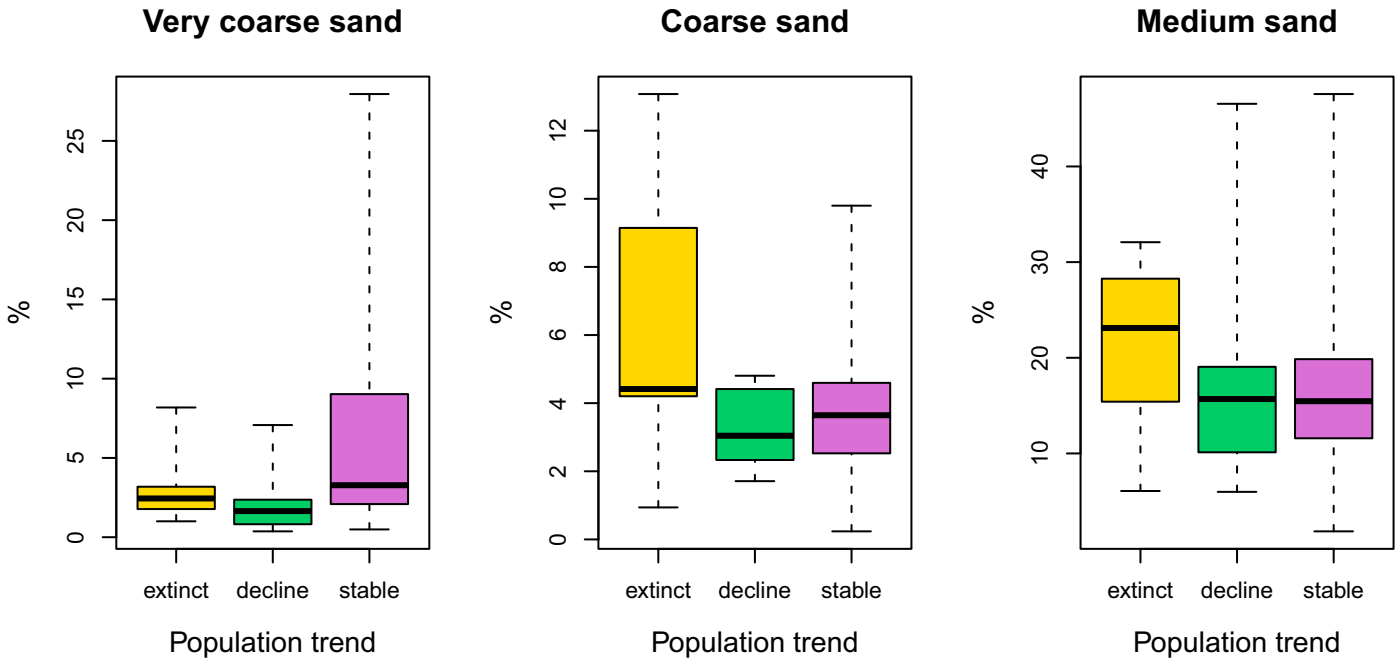
Phosphorus
mg/kg
2
4
6
8
10
12
extinct
decline
stable
Population trend

Soil pH
pH
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
extinct
decline
stable
Population trend


EC
µS/cm
200
300
400
500
600
extinct
decline
stable
Population trend

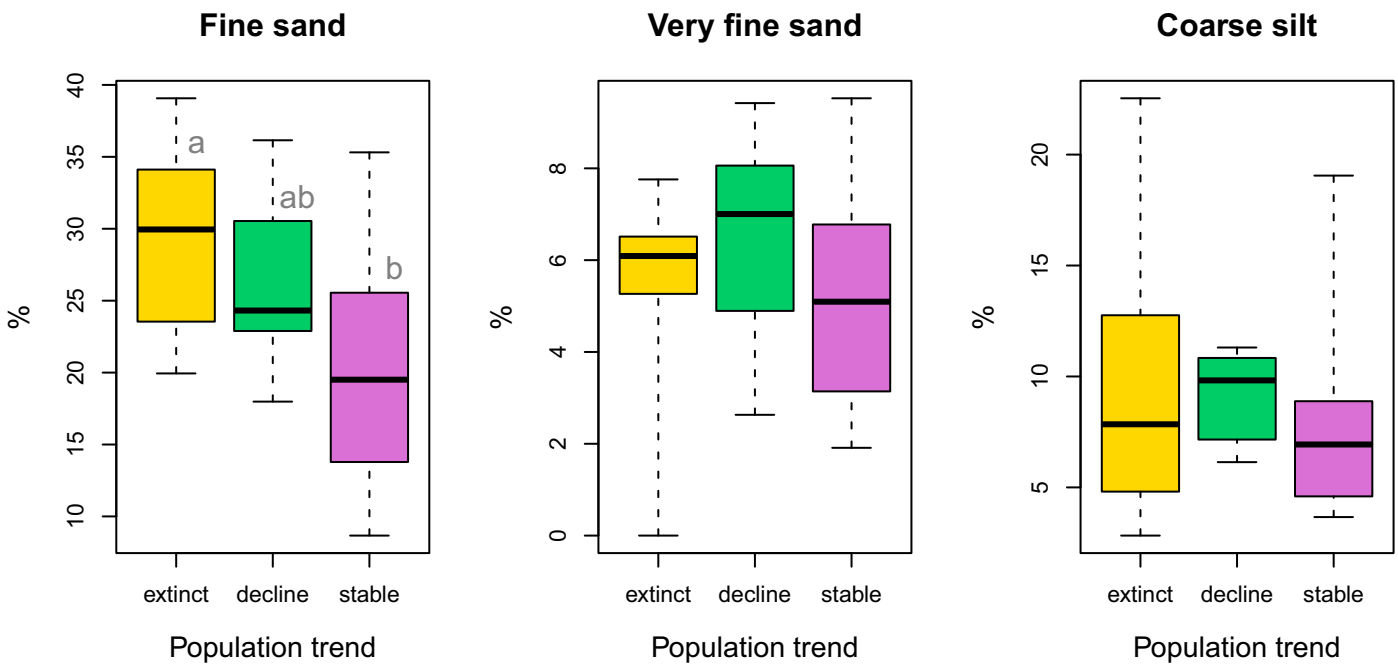

Org. matter content
%
5
10
15
20
extinct
decline
stable
Population trend


Skeleton content
%
0
5
10
15
20
25
30
35
b
ab
a
extinct
decline
stable
Population trend


Very coarse sand
%
0
5
10
15
20
25
extinct
decline
stable
Population trend

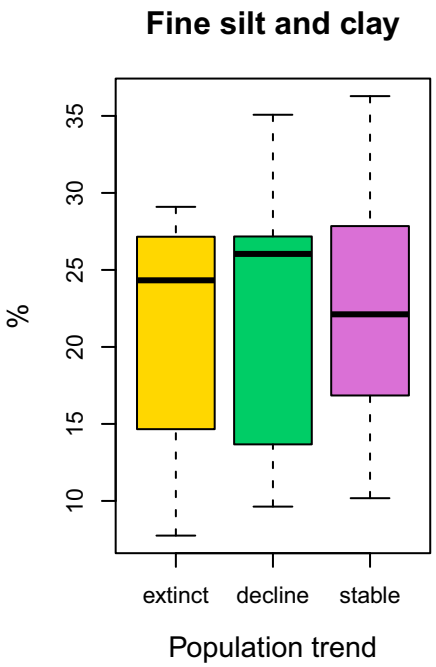
Coarse sand
%
0
2
4
6
8
10
12
extinct
decline
stable
Population trend

Medium sand
%
10
20
30
40
extinct
decline
stable
Population trend

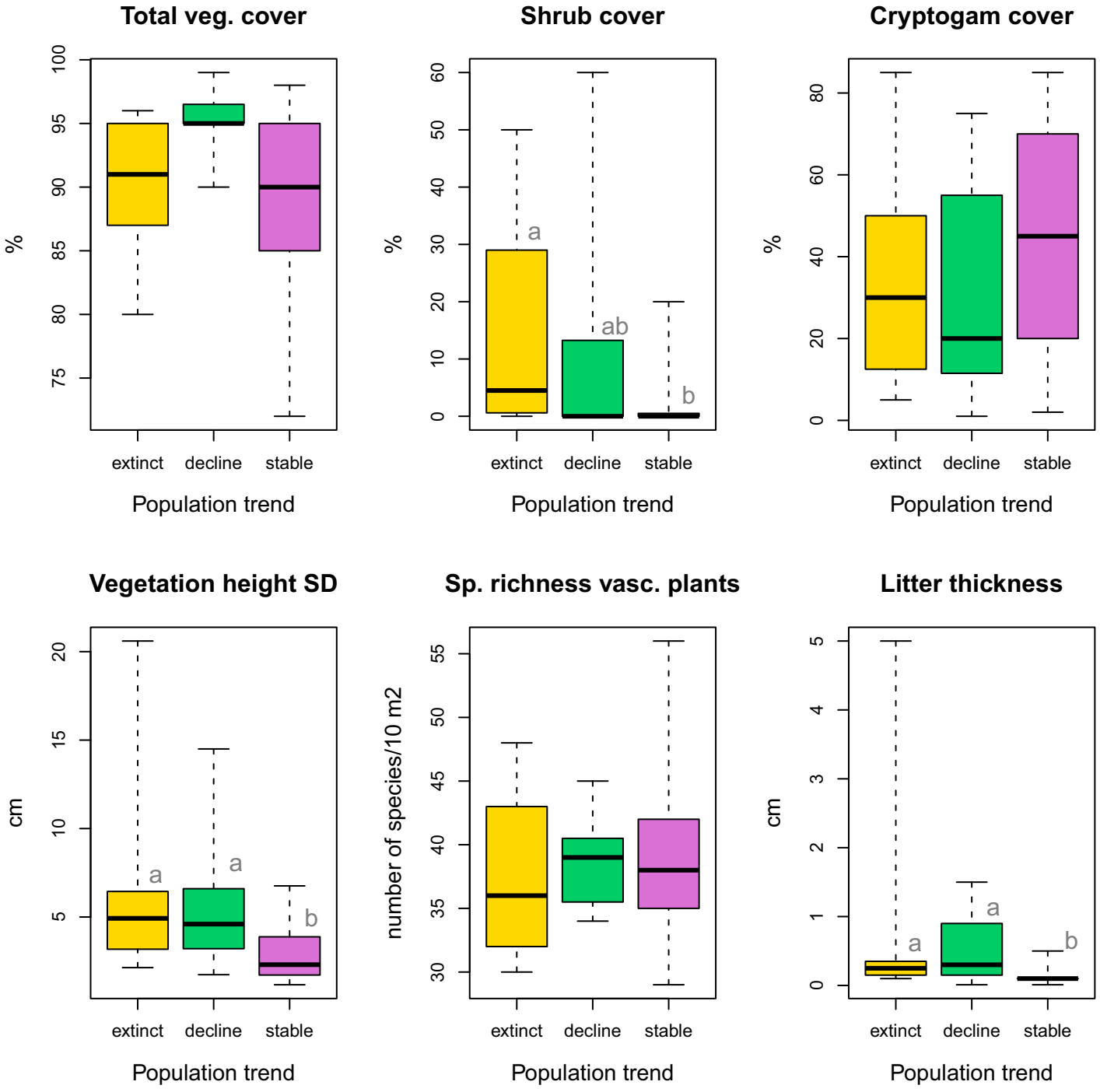

Fine sand
%
10
15
20
25
30
35
40
a
ab
b
extinct
decline
stable
Population trend

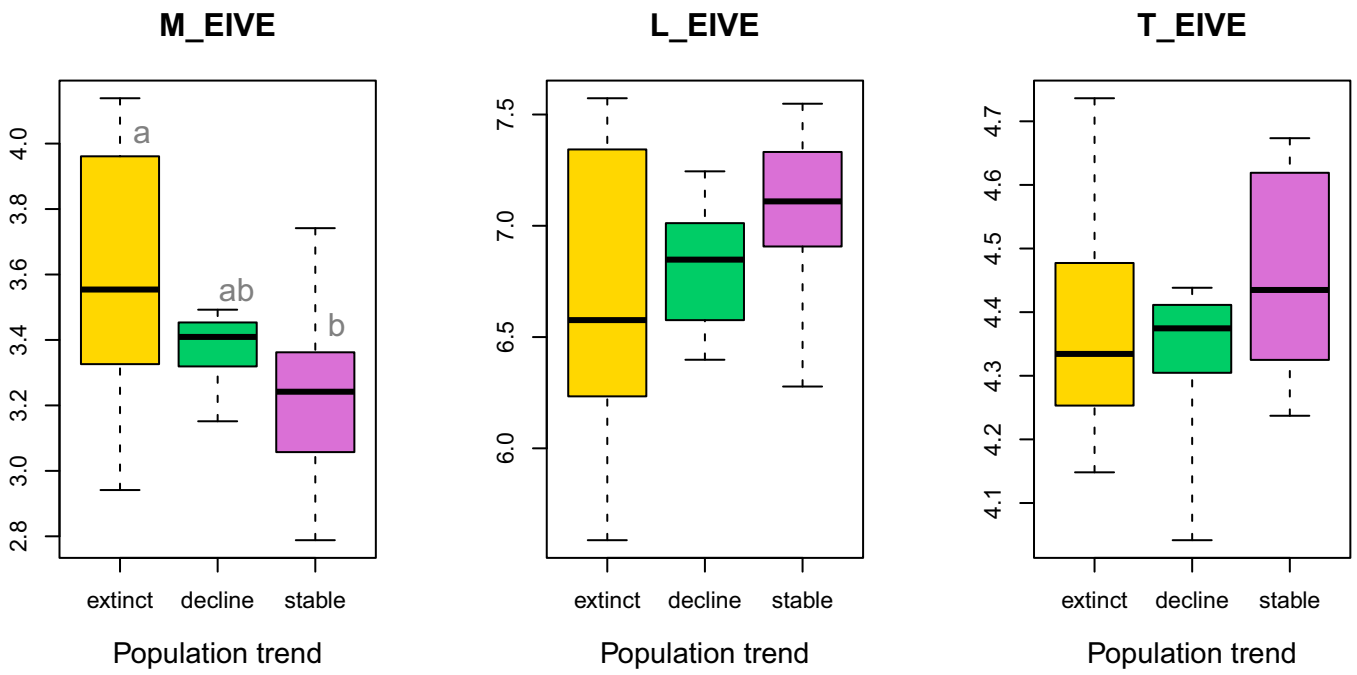
Very fine sand
%
0
2
4
6
8
extinct
decline
stable
Population trend

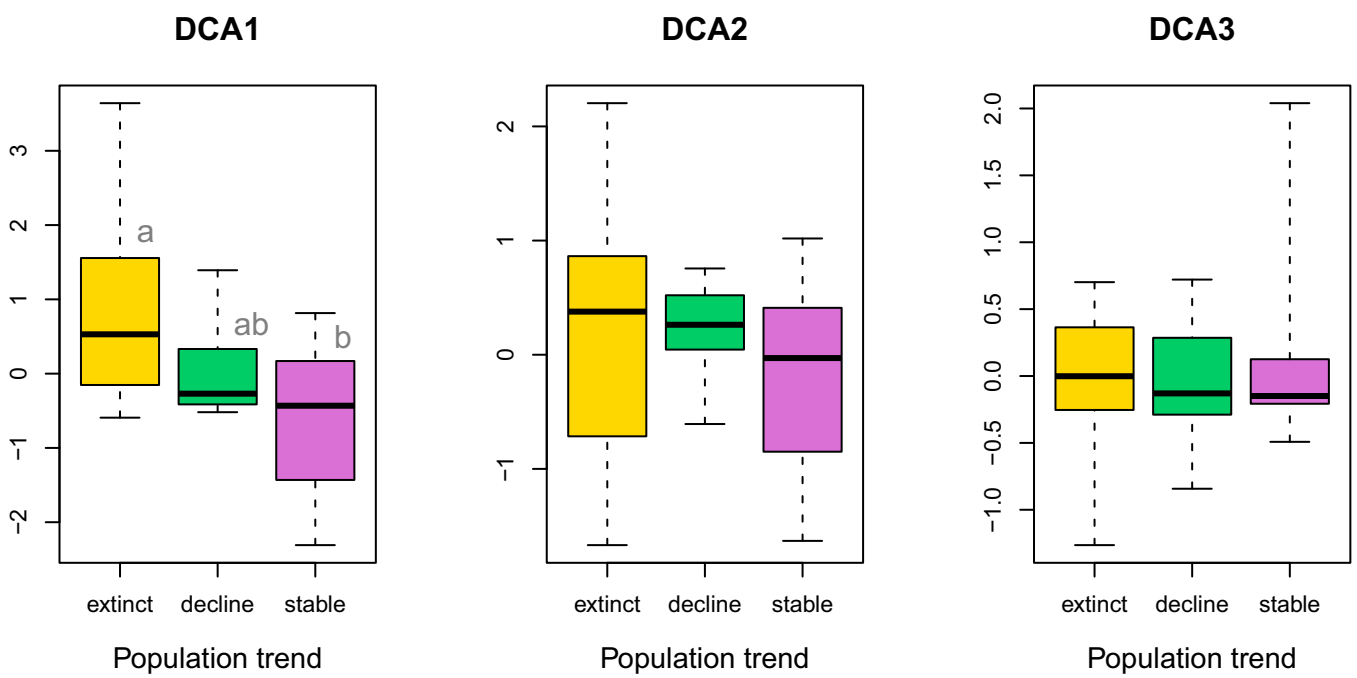
Coarse silt
%
5
10
15
20
extinct
decline
stable
Population trend

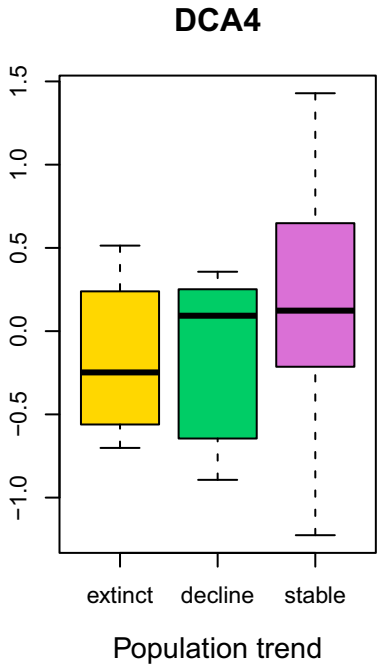

Fine silt and clay
%
10
15
20
25
30
35
extinct
decline
stable
Population trend

Vegetation and land use abandonment




M_EIVE
a
ab
b
2.8
3.0
3.2
3.4
3.6
3.8
4.0
extinct
decline
stable
Population trend
L_EIVE
6.0
6.5
7.0
7.5
extinct
decline
stable
Population trend
T_EIVE
4.1
4.2
4.3
4.4
4.5
4.6
4.7
extinct
decline
stable
Population trend


DCA1
a
ab
b
−2
−1
0
1
2
3
extinct
decline
stable
Population trend
DCA2
−1
0
1
2
extinct
decline
stable
Population trend
DCA3
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0
extinct
decline
stable
Population trend


DCA4
1.5
1.0
0.5
0.0
−0.5
−1.0
extinct
decline
stable
Population trend