**Supplemental Information**

Table S1. Replication of plots according to fixed factors of the mixed models. We adjusted information obtained from coarse-resolution bedrock maps in the field, associating each target habitat with the correct bedrock type.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  | **formal approach** |  | **subjective approach** |
|  |  |  |  |  |  |  |  |
| **mesic habitat** | **district** | **east** | sandstone |  | 58 |  | 34 |
| sandstone, schist |  | 32 |  | 39 |
| sandstone, schist, calc. |  | 25 |  | 16 |
|  |  |  |  |  |  |
| **west** | sandstone |  | 46 |  | 33 |
| sandstone, schist |  | 0 |  | 0 |
| sandstone, schist, calc. |  | 16 |  | 30 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| **snowbed habitat** | **district** | **east** | sandstone |  | 21 |  | 20 |
| sandstone, schist |  | 18 |  | 24 |
| sandstone, schist, calc |  | 0 |  | 0 |
|  |  |  |  |  |  |
| **west** | sandstone |  | 26 |  | 27 |
| sandstone, schist |  | 0 |  | 16 |
| sandstone, schist, calc. |  | 20 |  | 16 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Table S2. Linear Mixed Effect Models for the mesic habitat type. The table shows Akaike´s Information Criterion (AIC) for each model. “Value” indicates effects of factor levels compared to the Intercept which is followed by a t-test statistic.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Response** | **Model AIC** | **Fixed Factors** | **Value** | **Std.Error** | **DF** | **t-value** | **p-value** |
| log (bm forbs + 0.7092) | 958.69 | Intercept - formal approach in eastern district | 1.22 | 0.32 | 316 | 3.86 | 0.000 |
| sand, schist, calc. | 0.29 | 0.31 | 316 | 0.96 | 0.340 |
| sand, schist | -1.16 | 0.31 | 316 | -3.72 | 0.000 |
| subjective approach | 0.88 | 0.14 | 316 | 6.15 | 0.000 |
| western district | -1.15 | 0.45 | 7 | -2.55 | 0.038 |
| subjective approach in western district | -0.44 | 0.26 | 316 | -1.69 | 0.092 |
|  |  |  |  |  |  |  |  |
| log (bm prost. *Salix* + 0.7092) | 1098.47 | Intercept - formal approach in eastern district | 0.56 | 0.35 | 316 | 1.57 | 0.118 |
| sand, schist, calc. | 0.83 | 0.36 | 316 | 2.28 | 0.023 |
| sand, schist | -0.53 | 0.37 | 316 | -1.41 | 0.161 |
| subjective approach | 0.64 | 0.18 | 316 | 3.57 | 0.000 |
| western district | -0.27 | 0.50 | 7 | -0.55 | 0.602 |
| subjective approach in western district | -0.76 | 0.32 | 316 | -2.39 | 0.017 |
|  |  |  |  |  |  |  |  |
| log (bm grasses + 0.1258) | 1197.04 | Intercept - formal approach in eastern district | 1.13 | 0.45 | 316 | 2.55 | 0.011 |
| sand, schist, calc. | -0.31 | 0.44 | 316 | -0.70 | 0.483 |
| sand, schist | -1.26 | 0.45 | 316 | -2.81 | 0.005 |
| subjective approach | 0.83 | 0.21 | 316 | 4.00 | 0.000 |
| western district | -0.90 | 0.64 | 7 | -1.41 | 0.202 |
| subjective approach in western district | -0.73 | 0.37 | 316 | -1.96 | 0.051 |
|  |  |  |  |  |  |  |  |
| log (bm grasses silica + 0.1258) | 1112.86 | Intercept - formal approach in eastern district | -0.31 | 0.31 | 316 | -1.01 | 0.312 |
| sand, schist, calc. | -0.40 | 0.34 | 316 | -1.19 | 0.236 |
| sand, schist | -0.51 | 0.36 | 316 | -1.43 | 0.154 |
| subjective approach | -1.39 | 0.18 | 316 | -7.62 | 0.000 |
| western district | -1.58 | 0.43 | 7 | -3.66 | 0.008 |
| subjective approach in western district | 1.79 | 0.32 | 316 | 5.60 | 0.000 |
|  |  |  |  |  |  |  |  |
| log (bm dec. woody + 0.7092) | 806.85 | Intercept - formal approach in eastern district | 0.10 | 0.12 | 316 | 0.77 | 0.441 |
| sand, schist, calc. | 0.06 | 0.15 | 316 | 0.42 | 0.672 |
| sand, schist | -0.58 | 0.17 | 316 | -3.51 | 0.001 |
| subjective approach | 0.23 | 0.11 | 316 | 2.01 | 0.046 |
| western district | -0.28 | 0.17 | 7 | -1.62 | 0.149 |
| subjective approach in western district | -0.37 | 0.19 | 316 | -1.98 | 0.049 |
|  |  |  |  |  |  |  |  |
| log (bm evergreens + 0.2704) | 1106.36 | Intercept - formal approach in eastern district | -0.19 | 0.25 | 316 | -0.79 | 0.432 |
| sand, schist, calc. | -0.02 | 0.28 | 316 | -0.06 | 0.955 |
| sand, schist | -0.33 | 0.31 | 316 | -1.05 | 0.297 |
| subjective approach | 0.17 | 0.18 | 316 | 0.93 | 0.352 |
| western district | -0.85 | 0.34 | 7 | -2.49 | 0.042 |
| subjective approach in western district | 0.39 | 0.31 | 316 | 1.27 | 0.205 |
|  |  |  |  |  |  |  |  |
| log (bm *Betula n.*+ 1.4706) | 1051.02 | Intercept - formal approach in eastern district | 1.59 | 0.34 | 314 | 4.72 | 0.000 |
| sand, schist, calc. | -0.32 | 0.34 | 314 | -0.95 | 0.345 |
| sand, schist | 0.13 | 0.38 | 314 | 0.35 | 0.729 |
| subjective approach | -0.70 | 0.18 | 314 | -3.92 | 0.000 |
| western district | -0.91 | 0.49 | 7 | -1.88 | 0.102 |
| subjective approach in western district | 1.09 | 0.30 | 314 | 3.61 | 0.000 |
|  |  |  |  |  |  |  |  |
| log (bm *Vaccinium m.*+ 0.7092) | 1252.04 | Intercept - formal approach in eastern district | 1.12 | 0.70 | 316 | 1.59 | 0.112 |
| sand, schist, calc. | -1.01 | 0.54 | 316 | -1.89 | 0.060 |
| sand, schist | 2.63 | 0.53 | 316 | 5.00 | 0.000 |
| subjective approach | -0.78 | 0.22 | 316 | -3.45 | 0.001 |
| western district | 1.15 | 1.02 | 7 | 1.13 | 0.296 |
| subjective approach in western district | 0.35 | 0.42 | 316 | 0.83 | 0.406 |
|  |  |  |  |  |  |  |  |
| log (bm *Empetrum h.*+ 1.5804) | 1295.20 | Intercept - formal approach in eastern district | 1.86 | 0.71 | 316 | 2.61 | 0.010 |
| sand, schist, calc. | -0.86 | 0.57 | 316 | -1.51 | 0.131 |
| sand, schist | 2.68 | 0.56 | 316 | 4.80 | 0.000 |
| subjective approach | -0.57 | 0.24 | 316 | -2.39 | 0.018 |
| western district | 0.84 | 1.04 | 7 | 0.81 | 0.443 |
| subjective approach in western district | 0.12 | 0.44 | 316 | 0.27 | 0.790 |
|  |  |  |  |  |  |  |  |
| Gini-Simpson Index | -169.07 | Intercept - formal approach in eastern district | 0.60 | 0.05 | 314 | 12.40 | 0.000 |
| sand, schist, calc. | -0.01 | 0.05 | 314 | -0.16 | 0.872 |
| sand, schist | -0.11 | 0.06 | 314 | -1.93 | 0.055 |
| subjective approach | 0.03 | 0.03 | 314 | 1.02 | 0.308 |
| western district | -0.16 | 0.07 | 7 | -2.22 | 0.062 |
| subjective approach in western district | 0.07 | 0.05 | 314 | 1.51 | 0.133 |
|  |  |  |  |  |  |  |  |
| Shannon Index | 368.23 | Intercept - formal approach in eastern district | 1.41 | 0.17 | 316 | 8.29 | 0.000 |
| sand, schist, calc. | -0.05 | 0.13 | 316 | -0.39 | 0.699 |
| sand, schist | -0.83 | 0.13 | 316 | -6.23 | 0.000 |
| subjective approach | 0.18 | 0.06 | 316 | 3.09 | 0.002 |
| western district | -0.57 | 0.25 | 7 | -2.30 | 0.055 |
| subjective approach in western district | 0.09 | 0.11 | 316 | 0.88 | 0.378 |
|  |  |  |  |  |  |  |  |
| Species Richness | 1579.33 | Intercept - formal approach in eastern district | 7.81 | 1.24 | 314 | 6.30 | 0.000 |
| sand, schist, calc. | -0.39 | 0.91 | 314 | -0.43 | 0.668 |
| sand, schist | -3.26 | 1.02 | 314 | -3.20 | 0.002 |
| subjective approach | 3.24 | 0.42 | 314 | 7.74 | 0.000 |
| western district | -2.41 | 1.97 | 9 | -1.22 | 0.253 |
| subjective approach in western district | -0.96 | 0.72 | 314 | -1.34 | 0.180 |

Table S3. Linear Mixed Effect Models for the snowbed habitat type. The table shows Akaike´s Information Criterion (AIC) for each model. “Value” indicates effects of factor levels compared to the Intercept which is followed by a t-test statistic.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Response** | **Model AIC** | **Fixed Factors** | **Value** | **Std.Error** | **DF** | **t-value** | **p-value** |
| log (bm forbs + 0.1388) | 679.46 | Intercept - formal approach in eastern district | 0.61 | 2.33 | 178 | 0.26 | 0.794 |
| sand, schist, calc. | -6.25 | 0.82 | 178 | -7.60 | 0.000 |
| sand, schist | -3.43 | 0.44 | 178 | -7.73 | 0.000 |
| subjective approach | 2.73 | 0.33 | 178 | 8.31 | 0.000 |
| western district | 2.54 | 2.86 | 4 | 0.89 | 0.425 |
| subjective approach in western district | -3.15 | 0.45 | 178 | -7.07 | 0.000 |
|  |  |  |  |  |  |  |  |
| log (bm prost. *Salix* + 0.7092) | 667.86 | Intercept - formal approach in eastern district | 3.07 | 0.25 | 176 | 12.49 | 0.000 |
| sand, schist, calc. | 0.27 | 0.29 | 176 | 0.93 | 0.355 |
| sand, schist | -0.40 | 0.24 | 176 | -1.66 | 0.099 |
| subjective approach | -1.01 | 0.30 | 176 | -3.35 | 0.001 |
| western district | -2.14 | 0.34 | 6 | -6.40 | 0.001 |
| subjective approach in western district | 1.82 | 0.41 | 176 | 4.47 | 0.000 |
|  |  |  |  |  |  |  |  |
| log (bm grasses + 0.1258) | 690.53 | Intercept - formal approach in eastern district | 1.43 | 0.85 | 178 | 1.68 | 0.094 |
| sand, schist, calc. | -0.10 | 0.74 | 178 | -0.13 | 0.895 |
| sand, schist | -0.96 | 0.43 | 178 | -2.21 | 0.028 |
| subjective approach | 0.88 | 0.34 | 178 | 2.57 | 0.011 |
| western district | -0.66 | 1.06 | 4 | -0.63 | 0.563 |
| subjective approach in western district | -0.93 | 0.46 | 178 | -2.03 | 0.044 |
|  |  |  |  |  |  |  |  |
| log (bm grasses silica + 0.1258) | 578.58 | Intercept - formal approach in eastern district | -0.81 | 0.24 | 176 | -3.38 | 0.001 |
| sand, schist, calc. | -0.19 | 0.33 | 176 | -0.57 | 0.568 |
| sand, schist | 0.10 | 0.24 | 176 | 0.43 | 0.670 |
| subjective approach | -1.16 | 0.26 | 176 | -4.46 | 0.000 |
| western district | -0.82 | 0.33 | 6 | -2.45 | 0.050 |
| subjective approach in western district | 0.76 | 0.34 | 176 | 2.25 | 0.026 |
|  |  |  |  |  |  |  |  |
| log (bm Sedges + 0.2324) | 617.52 | Intercept - formal approach in eastern district | -0.22 | 0.43 | 178 | -0.52 | 0.601 |
| sand, schist, calc. | -0.10 | 0.48 | 178 | -0.21 | 0.831 |
| sand, schist | 0.56 | 0.32 | 178 | 1.77 | 0.079 |
| subjective approach | 0.01 | 0.28 | 178 | 0.02 | 0.982 |
| western district | -0.35 | 0.54 | 4 | -0.65 | 0.553 |
| subjective approach in western district | -0.42 | 0.37 | 178 | -1.14 | 0.256 |
|  |  |  |  |  |  |  |  |
| log (bm *Vaccinium m.*+ 0.7092) | 494.60 | Intercept - formal approach in eastern district | -0.02 | 0.50 | 176 | -0.05 | 0.961 |
| sand, schist, calc. | 0.51 | 0.48 | 176 | 1.06 | 0.291 |
| sand, schist | -0.13 | 0.34 | 176 | -0.38 | 0.706 |
| subjective approach | 0.03 | 0.28 | 176 | 0.09 | 0.928 |
| western district | 0.05 | 0.66 | 4 | 0.08 | 0.942 |
| subjective approach in western district | 0.11 | 0.33 | 176 | 0.34 | 0.737 |
|  |  |  |  |  |  |  |  |
| log (bm *Empetrum h.*+ 1.5804) | 265.37 | Intercept - formal approach in eastern district | 0.36 | 0.15 | 178 | 2.35 | 0.020 |
| sand, schist, calc. | 0.21 | 0.18 | 178 | 1.16 | 0.249 |
| sand, schist | 0.26 | 0.12 | 178 | 2.22 | 0.028 |
| subjective approach | 0.02 | 0.10 | 178 | 0.23 | 0.817 |
| western district | 0.11 | 0.20 | 4 | 0.58 | 0.596 |
| subjective approach in western district | -0.06 | 0.14 | 178 | -0.45 | 0.650 |
|  |  |  |  |  |  |  |  |
| Gini-Simpson Index | 1.60 | Intercept - formal approach in eastern district | 0.50 | 0.07 | 176 | 7.06 | 0.000 |
| sand, schist, calc. | -0.24 | 0.10 | 176 | -2.42 | 0.017 |
| sand, schist | -0.02 | 0.07 | 176 | -0.24 | 0.812 |
| subjective approach | 0.05 | 0.06 | 176 | 0.72 | 0.475 |
| western district | 0.09 | 0.10 | 4 | 0.94 | 0.399 |
| subjective approach in western district | -0.13 | 0.08 | 176 | -1.71 | 0.089 |
|  |  |  |  |  |  |  |  |
| Shannon Index | 268.49 | Intercept - formal approach in eastern district | 1.14 | 0.47 | 178 | 2.44 | 0.016 |
| sand, schist, calc. | -1.42 | 0.26 | 178 | -5.47 | 0.000 |
| sand, schist | -0.59 | 0.14 | 178 | -4.18 | 0.000 |
| subjective approach | 0.51 | 0.11 | 178 | 4.81 | 0.000 |
| western district | 0.52 | 0.58 | 4 | 0.90 | 0.419 |
| subjective approach in western district | -0.75 | 0.14 | 178 | -5.19 | 0.000 |
|  |  |  |  |  |  |  |  |
| Species Richness | 916.34 | Intercept - formal approach in eastern district | 8.26 | 4.51 | 178 | 1.83 | 0.069 |
| sand, schist, calc. | -13.95 | 1.58 | 178 | -8.84 | 0.000 |
| sand, schist | -6.06 | 0.85 | 178 | -7.12 | 0.000 |
| subjective approach | 4.73 | 0.63 | 178 | 7.51 | 0.000 |
| western district | 4.64 | 5.54 | 4 | 0.84 | 0.449 |
| subjective approach in western district | -6.16 | 0.86 | 178 | -7.20 | 0.000 |