

Supporting Information

TABLES

Table S1. Spearman rank correlations between plant species richness (plant_rich) and plant-derived environmental bioindication (Ellenberg Indicator Values; E_light, E_moisture, E_pH, and E_nutrients) and measured abiotic factors. The abiotic factors include soil pH, soil C, N and P concentrations (soil_pH, soil_c, soil_n, soil_p), leaf N and P concentrations (leaf_n and leaf_p), soil moisture (soil_moisture), soil surface temperature (soil_surface_temp), air temperature (air_temp), light intensity (light_intensity), vapor pressure deficit (vpd), number of trees >40dbh (trees_40dbh), dead wood volume (deadwood_vol) and lidar derived mean canopy height (canopy_height). Significance level indicated by: * ≤ 0.05 , ** ≤ 0.01 , *** ≤ 0.001 .

	plant_rich	E_light	E_moisture	E_pH	E_nutrients
E_light	0.152				
E_moisture	0.011	0.027			
E_pH	0.468***	-0.13	-0.262**		
E_nutrients	0.18*	-0.458***	-0.149	0.821***	
soil_ph	0.55***	0.2*	-0.258**	0.702***	0.397***
soil_c	0.292***	0.136	-0.087	0.004	-0.111
soil_n	0.384***	0.113	-0.495***	0.504***	0.338***
soil_p	0.401***	0.018	-0.486***	0.685***	0.535***
leaf_n	-0.025	-0.374***	0.051	0.46***	0.681***
leaf_p	-0.006	-0.246**	-0.201*	0.442***	0.65***
soil_moisture	0.14	0.087	0.854***	-0.04	-0.002
soil_surface_temp	0.122	0.609***	-0.126	-0.159	-0.415***
air_temp	0.134	0.433***	-0.152	0.121	-0.085
light_intensity	0.125	0.737***	0.024	-0.2*	-0.497***
vpd	0.078	0.561***	-0.25**	-0.129	-0.405***
trees_40dbh	-0.213*	-0.72***	-0.132	0.064	0.356***
deadwood_vol	-0.195*	-0.638***	-0.012	0.031	0.331***
canopy_height	-0.198*	-0.802***	0.043	0.019	0.328***

Table S2. Spearman rank correlation between plant species richness (plant_rich) and species richness of other taxonomic groups and OTU richness. Significance level indicated by: * ≤ 0.05 , ** ≤ 0.01 , *** ≤ 0.001 .

	plant_rich
Bryophytes	0.016
Carabids	0.028
Gallers	0.381***
Gastropods	0.221*
Hoverflies	0.265**
Lichens	-0.006
Macrofungi	0.059
Spiders	0.247**
Total richness	0.165

FIGURES

Figure S1

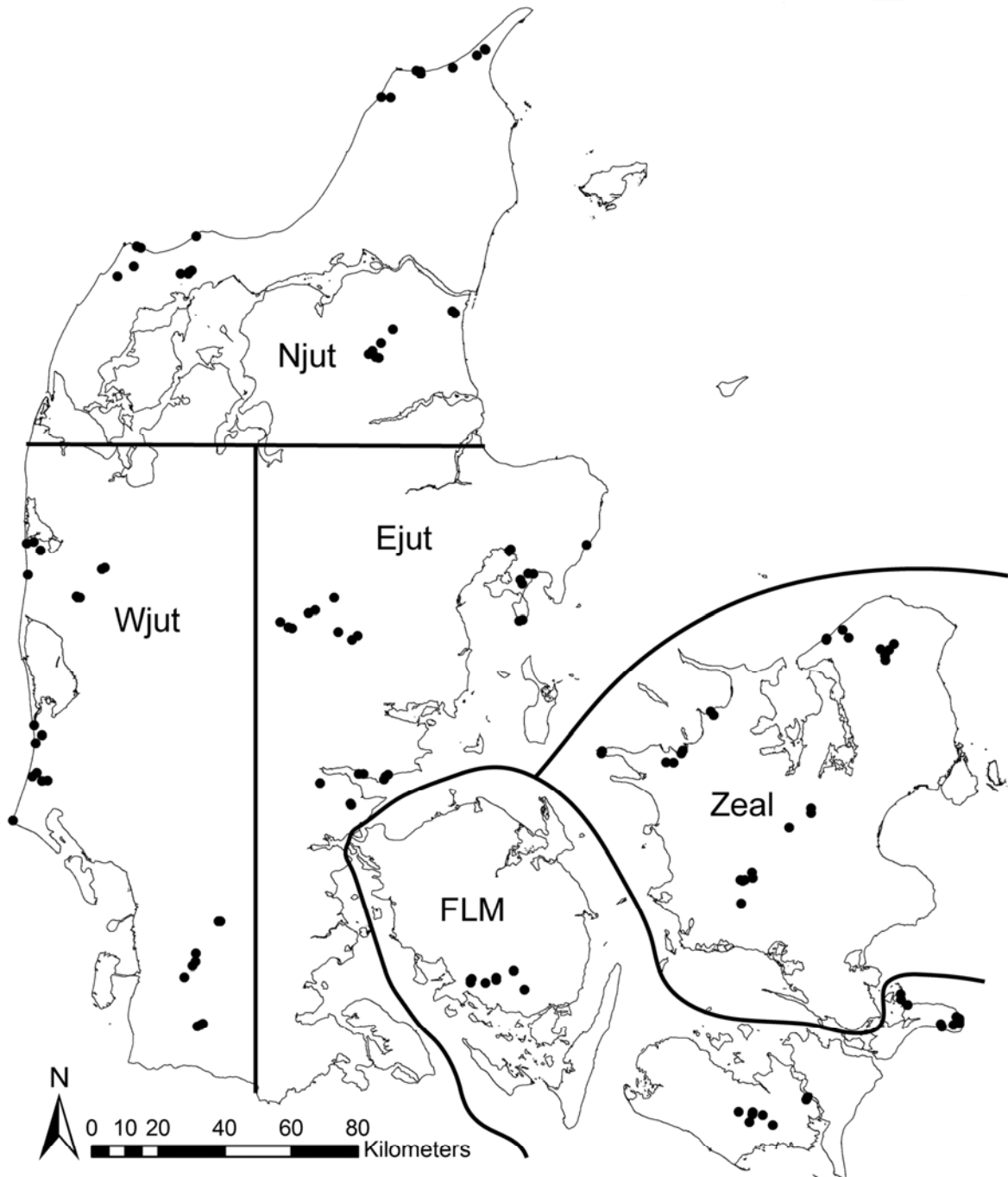


Figure S1. Map of Denmark showing the location of the 130 sites grouped into 15 clusters within five regions (Njut: Northern Jutland, Wjut: Western Jutland, Ejut: Eastern Jutland, FLM: Funen, Lolland, Møn, Zeal: Zealand).

Figure S2

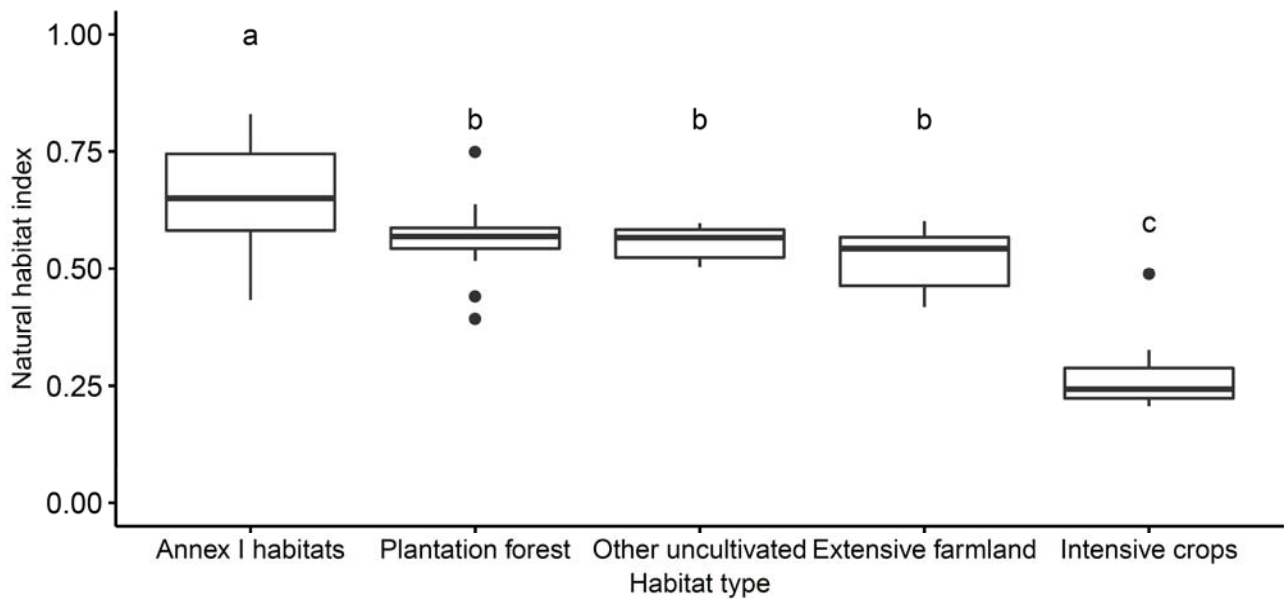


Figure S2. Boxplot of natural habitat index for sites of five different habitat types varying in naturalness from very natural (Annex 1 habitat) to medium natural (other uncultivated habitats, logged woodlands and extensive farming) to unnatural habitats (intensive crops). Letters indicate significant difference in means using Tukey tests.

Figure S3

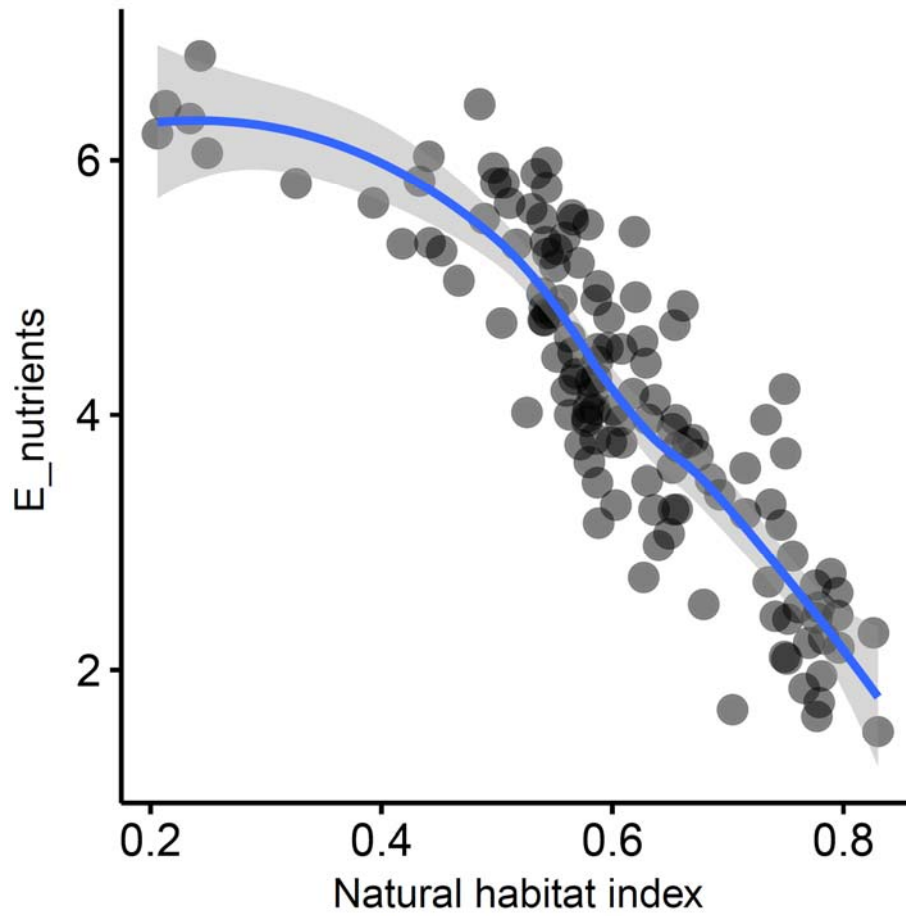


Figure S3. Correlation between natural habitat index and Ellenberg nutrient status (E_nutrients) ($R^2=0.73\%$ for a linear model). Loess smoother shown in blue.

Figure S4

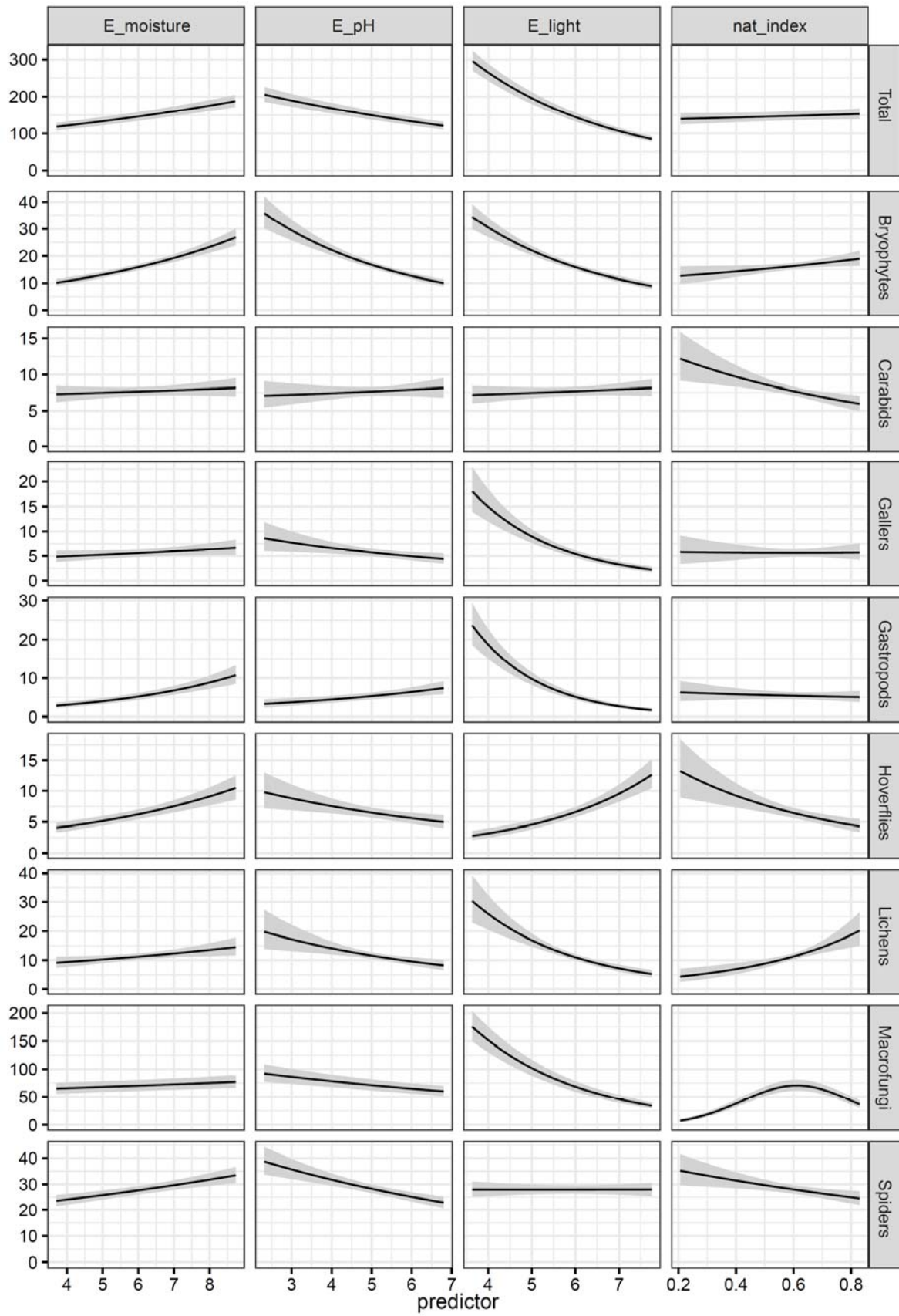


Figure S4 continued

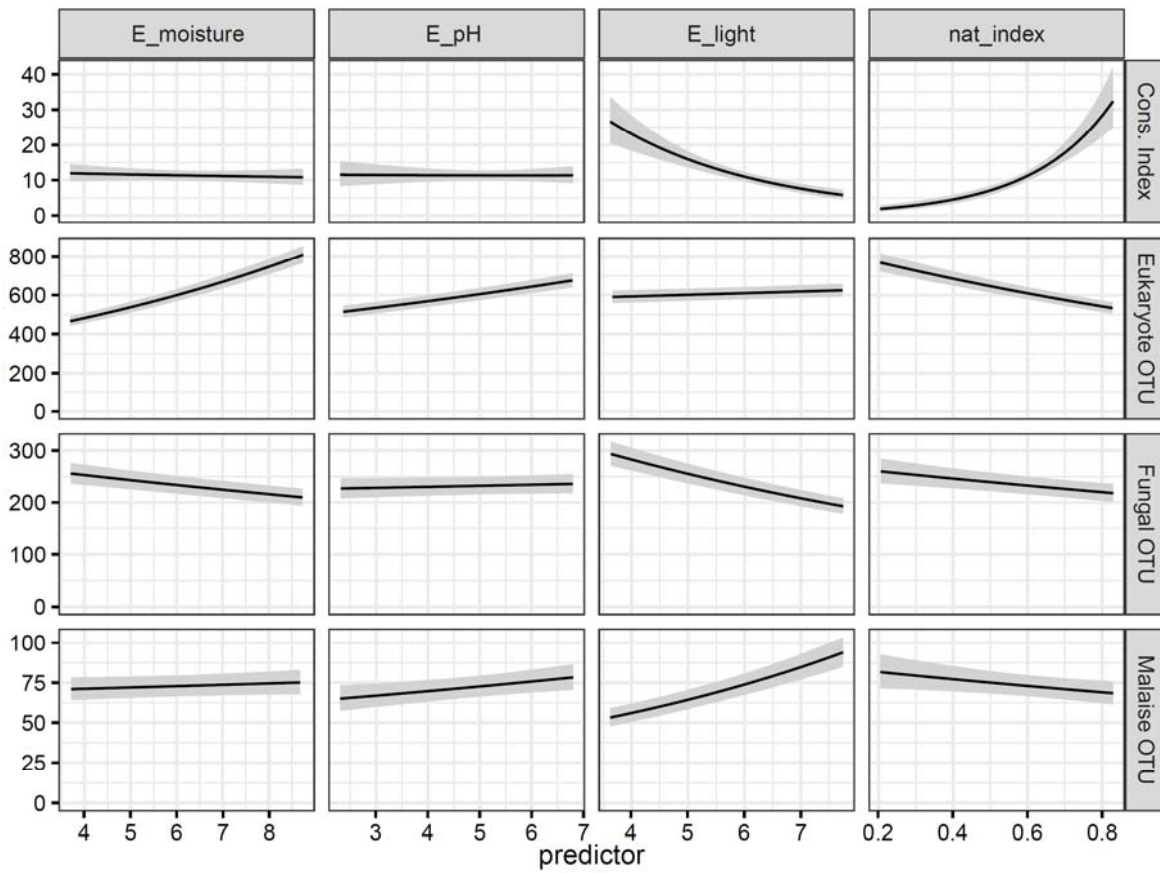


Figure S4: Multiple regression responses and 95% BCI of explanatory variables to species richness of various taxonomic groups, Conservation Index and OTU richness. For model details see table 1.