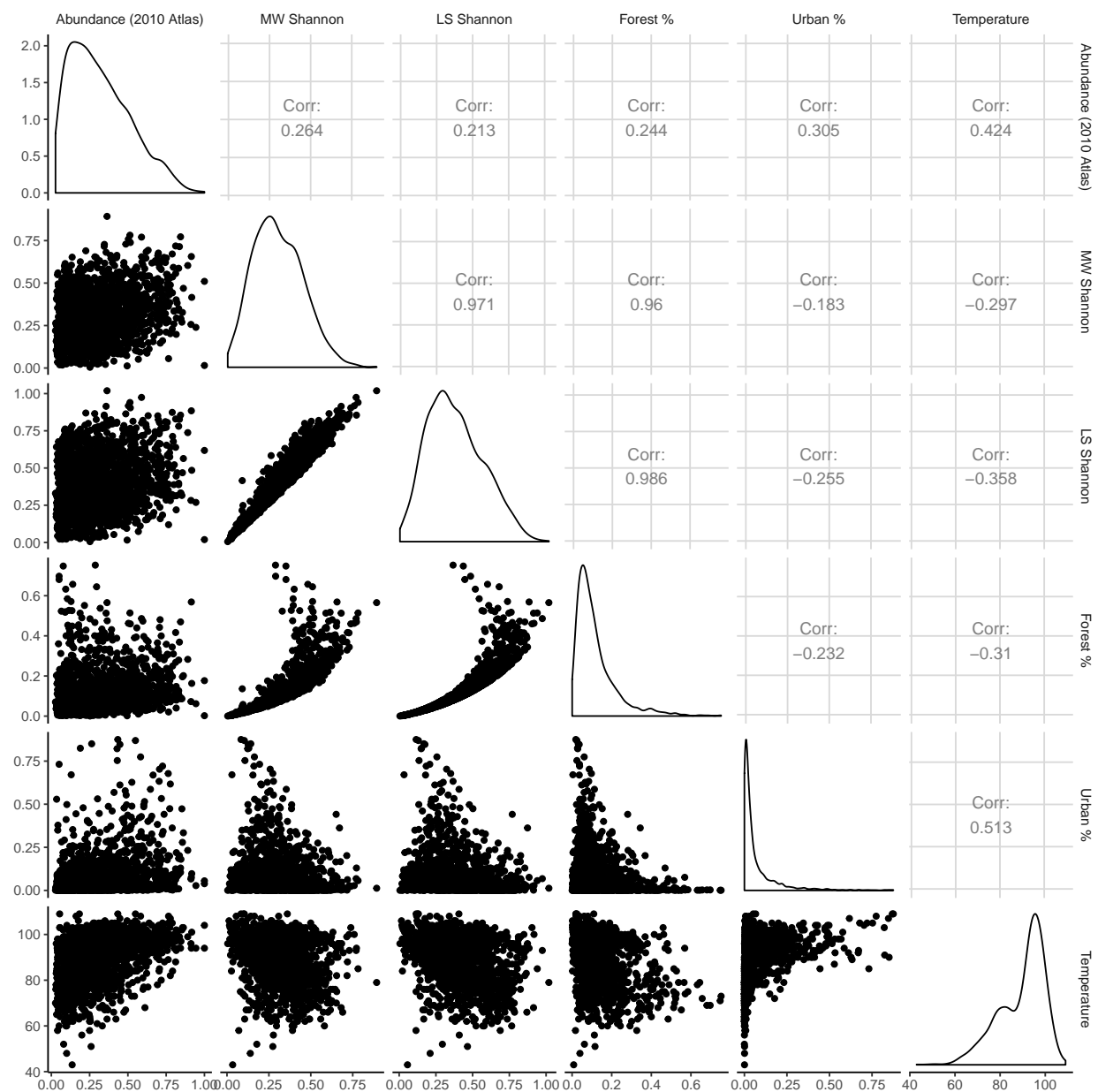# Supplementary Material

Figure S1: Pairs plot of *Garrulus glandarius* relative abundance and covariates. Correlations shown are Spearman's ρ.

Table S1: Table S1: Results of the global model for relative abundance of *Garrulus glandarius*.

Variable	Estimate [95 % confidence interval]
Intercept	0.03 [-0.03, 0.08]
MW Shannon	0.28 [0.07, 0.49]
LS Shannon	-0.03 [-0.28, 0.21]
Forest %	0.21 [0.06, 0.37]
Forest % : MW Shannon	-0.01 [-0.19, 0.17]
Forest % : LS Shannon	-0.02 [-0.2, 0.17]
Urban %	0.13 [0.08, 0.17]
Temperature	0.5 [0.45, 0.55]

Table S2: Table S2: Results of the parsimonious model for relative abundance of *Garrulus glandarius*.

Variable	Estimate [95 % confidence interval]
Intercept	0.03 [-0.03, 0.08]
MW Shannon	0.27 [0.07, 0.49]
LS Shannon	-0.03 [-0.28, 0.21]
Forest %	0.22 [0.06, 0.37]
Forest % : LS Shannon	-0.03 [-0.2, 0.17]
Urban %	0.13 [0.08, 0.17]
Temperature	0.5 [0.45, 0.55]

Table S3: Table S3: Results of the model averaging for relative abundance of *Garrulus glandarius*.

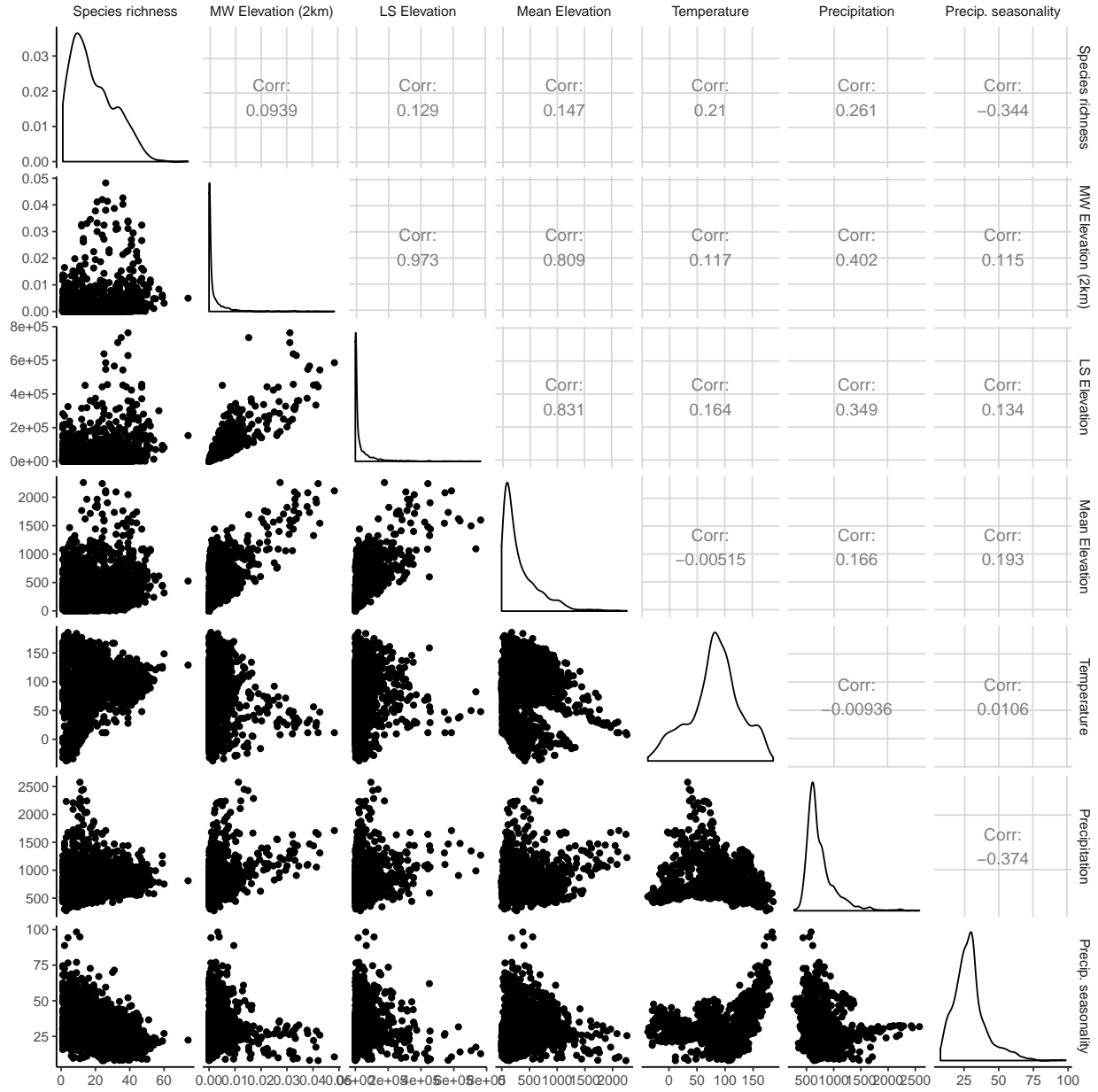| Variable	Estimate [95 % confidence interval]	Variable Importance
Intercept	0.02 [-0.04, 0.07]	NA
MW Shannon	0.27 [0.14, 0.41]	1.00
LS Shannon	-0.06 [-0.28, 0.16]	0.42
Forest %	0.21 [0.08, 0.35]	1.00
Forest % : MW Shannon	-0.03 [-0.06, 0.01]	0.50
Forest % : LS Shannon	-0.03 [-0.06, 0.01]	0.14
Urban %	0.13 [0.08, 0.17]	1.00
Temperature	0.5 [0.45, 0.55]	1.00

Figure S2: Pairs plot of European tree species richness and covariates. Correlations shown are Spearman's ρ.

```
## Start:  AIC=13737.94
## sprich ~ elevmean + winvar2000 + elevvar + elevmean:winvar2000 +
##     elevmean:elevvar + bio1 + I(bio1^2) + bio12 + I(bio12^2) +
##     bio15
##
##                       Df Deviance   AIC
## <none>                     2078.5 13738
## - elevmean:elevvar     1   2081.5 13739
## - bio12                1   2086.1 13744
## - elevmean:winvar2000  1   2092.4 13750
## - I(bio12^2)           1   2149.6 13807
## - bio1                 1   2170.6 13828
## - bio15                1   2177.8 13835
```

Table S4: Table S4: Results of the global model for European tree species richness.

Variable	Estimate [95 % confidence interval]
(Intercept)	3.07 [3.02, 3.11]
MW elevation	-0.26 [-0.38, -0.15]
LS elevation	0.26 [0.15, 0.37]
Mean elevation	0.19 [0.14, 0.25]
Mean elevation : MW elevation	0.14 [0.07, 0.21]
Mean elevation : LS elevation	-0.06 [-0.13, 0.01]
Temperature	0.15 [0.12, 0.18]
Precipitation	0.06 [0.02, 0.1]
Precipitation seasonality	-0.15 [-0.18, -0.12]
Temperature (quadratic)	-0.24 [-0.26, -0.21]
Precipitation (quadratic)	-0.08 [-0.09, -0.06]

Table S5: Table S5: Results of the parsimonious model for European tree species richness.

Variable	Estimate [95 % confidence interval]
(Intercept)	3.07 [3.02, 3.11]
MW elevation	-0.26 [-0.38, -0.15]
LS elevation	0.26 [0.15, 0.37]
Mean elevation	0.19 [0.14, 0.25]
Mean elevation : MW elevation	0.14 [0.07, 0.21]
Mean elevation : LS elevation	-0.06 [-0.13, 0.01]
Temperature	0.15 [0.12, 0.18]
Precipitation	0.06 [0.02, 0.1]
Precipitation seasonality	-0.15 [-0.18, -0.12]
Temperature (quadratic)	-0.24 [-0.26, -0.21]
Precipitation (quadratic)	-0.08 [-0.09, -0.06]

```
## - I(bio1^2)          1   2413.3 14071
```

Table S6: Table S6: Results of the model averaging for European tree species richness.

Variable	Estimate [95 % confidence interval]
(Intercept)	3.06 [3.02, 3.11]
MW elevation	-0.27 [-0.38, -0.16]
LS elevation	0.27 [0.16, 0.38]
Mean elevation	0.19 [0.14, 0.25]
Mean elevation : MW elevation	0.12 [0.04, 0.2]
Mean elevation : LS elevation	-0.06 [-0.13, 0.01]
Temperature	0.15 [0.12, 0.18]
Precipitation	0.06 [0.02, 0.1]
Precipitation seasonality	-0.15 [-0.18, -0.12]
Temperature (quadratic)	-0.24 [-0.26, -0.21]
Precipitation (quadratic)	-0.08 [-0.09, -0.06]