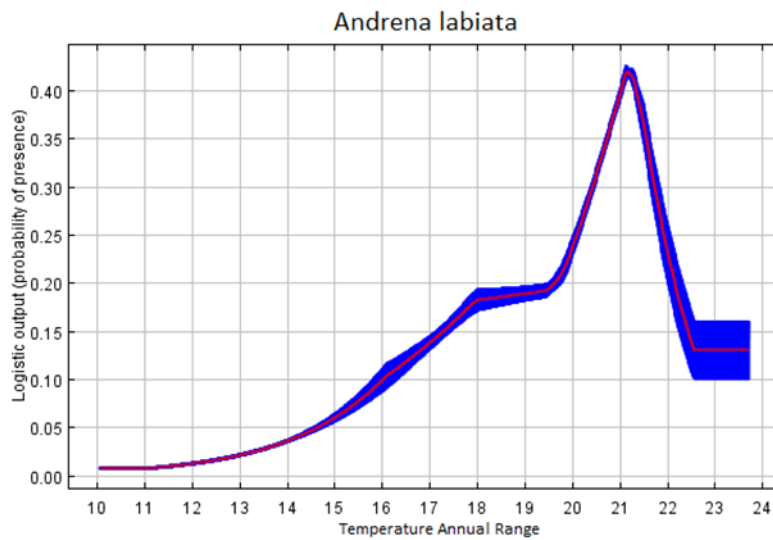
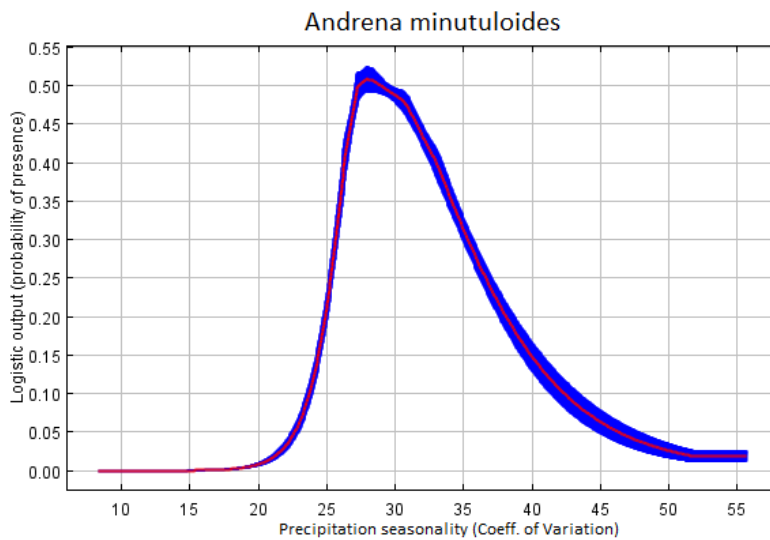


## FILE S5: IMPORTANCE OF PREDICTORS

Figures from S5-1.1 to S5-1.4 show the single response curves to the four most important predictors, for the four species where one of these predictors scored the greatest importance. Figures from S5-2 to S5-4 show the correlation of the *Mean* and *Mode* of the predictors' importance, and their significance.

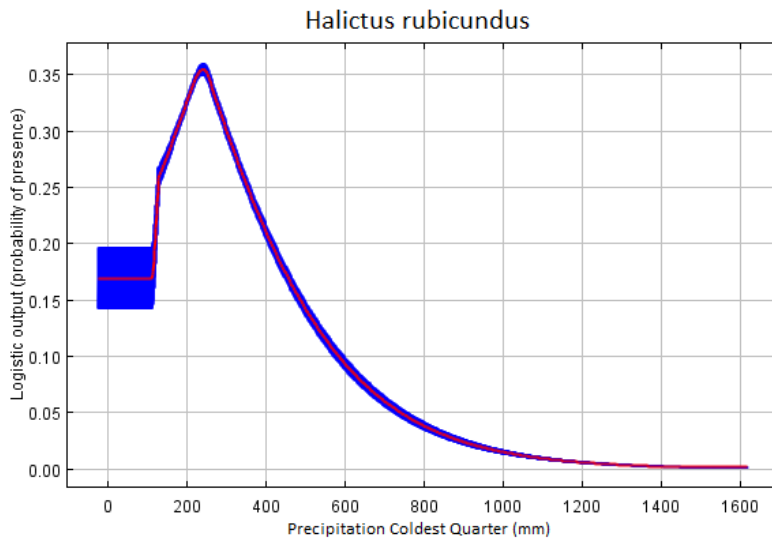


**Figure S5-1.1: Predicted probability of occurrence of *Andrena labiata* along the temperature annual range.**

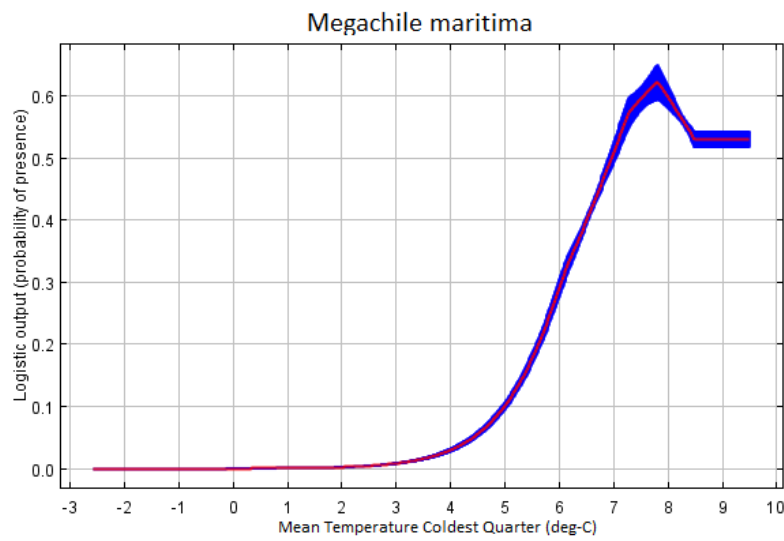


**Figure S5-1.2: Predicted probability of occurrence of *Andrena minutuloides* along the precipitation seasonality.**

Crop pollination from species occurrences: supporting information

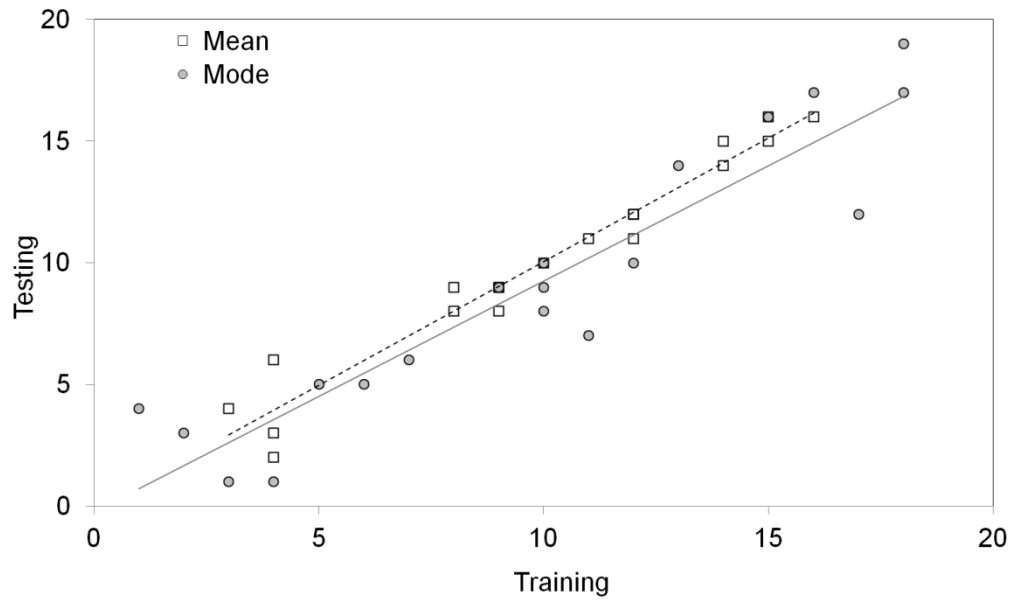


**Figure S5-1.3:** Predicted probability of occurrence of *Halictus rubicundus* along the precipitation of the coldest quarter.



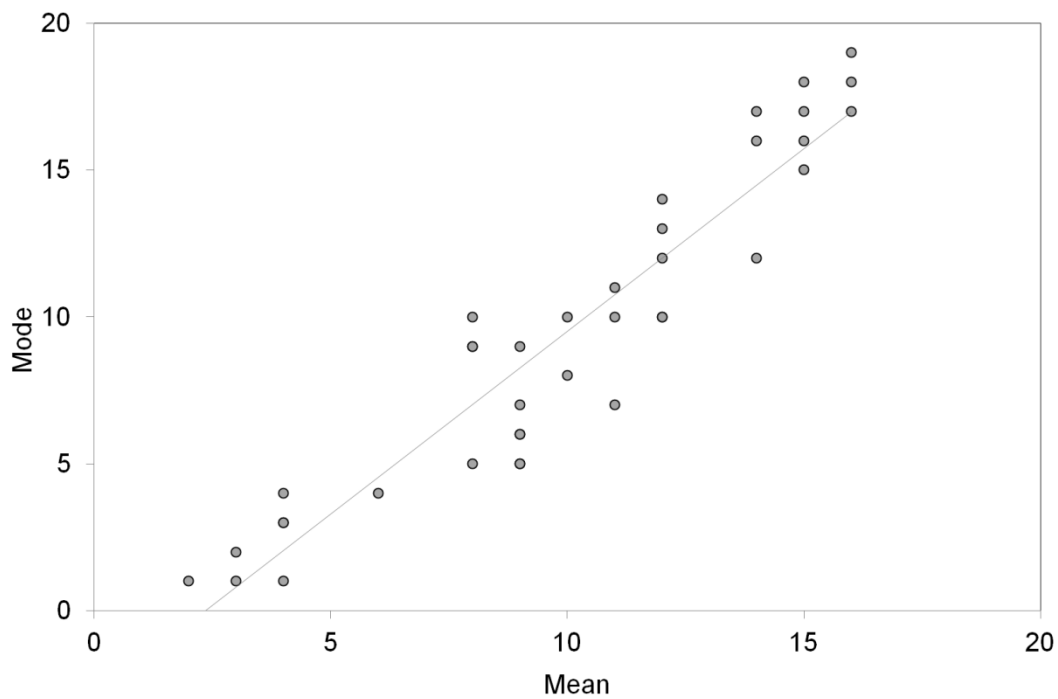
**Figure S5-1.4:** Predicted probability of occurrence of *Megachile maritima* along the mean temperature of the coldest quarter.

Crop pollination from species occurrences: supporting information



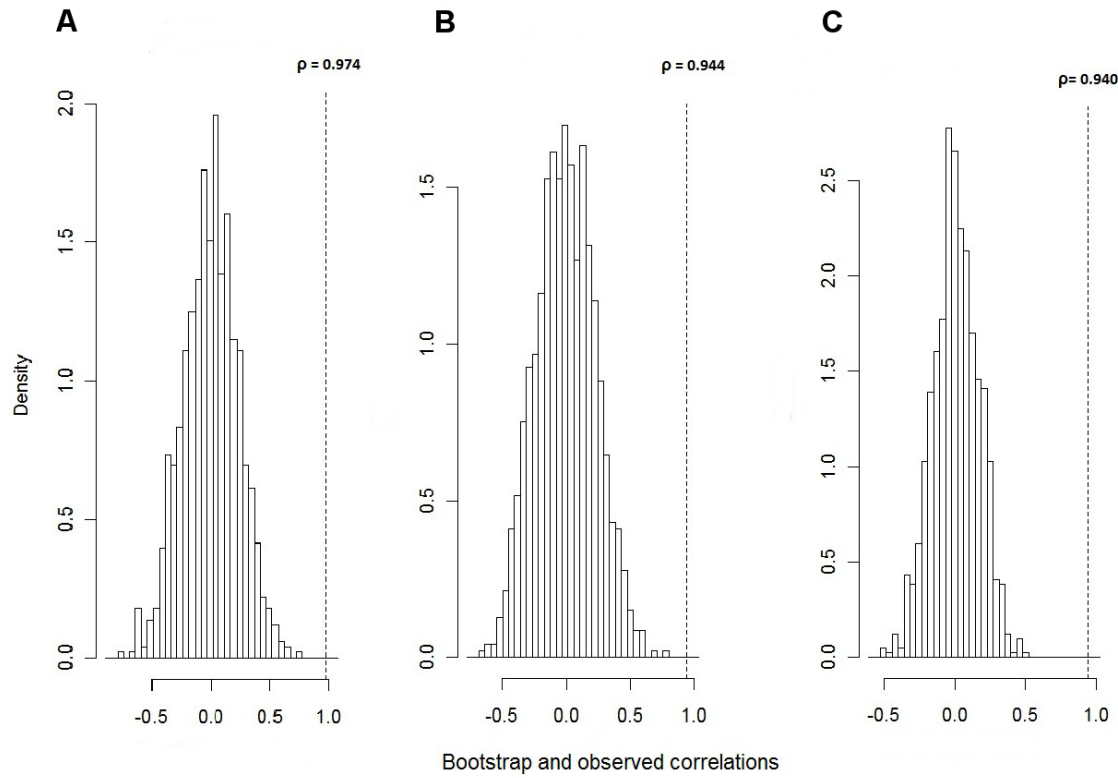
**Figure S5-2: Rank correlation within training and testing data, for predictors *Mean* and *Mode*.**

Spearman's rank correlations: Mean (open squares and dashed line):  $\rho = 0.974$ ; Mode (filled circles and solid line):  $\rho = 0.944$ . Both correlations are significant, based on 999 bootstrap replicates (Fig. S5-4 panel A and B).



**Figure S5-3: Rank correlation between *Mean* and *Mode*, for the pooled set of training and test models across species.**

Spearman's rank correlation:  $\rho = 0.940$ , significant based on 999 bootstrap replicates (Fig. S5-4 panel C).



**Figure S5-4: Distributions of bootstrap and observed Spearman's rank correlations.**

A: correlation of predictors' Mean between training and testing phase; B: correlation of predictors' *Mode* between training and testing phase; C: correlation between *Mean* and *Mode* for the pooled set of training and testing data. In all three cases the observed correlation are significantly greater than those generated from 999 bootstrap replicates.