Posterior Predictive Check
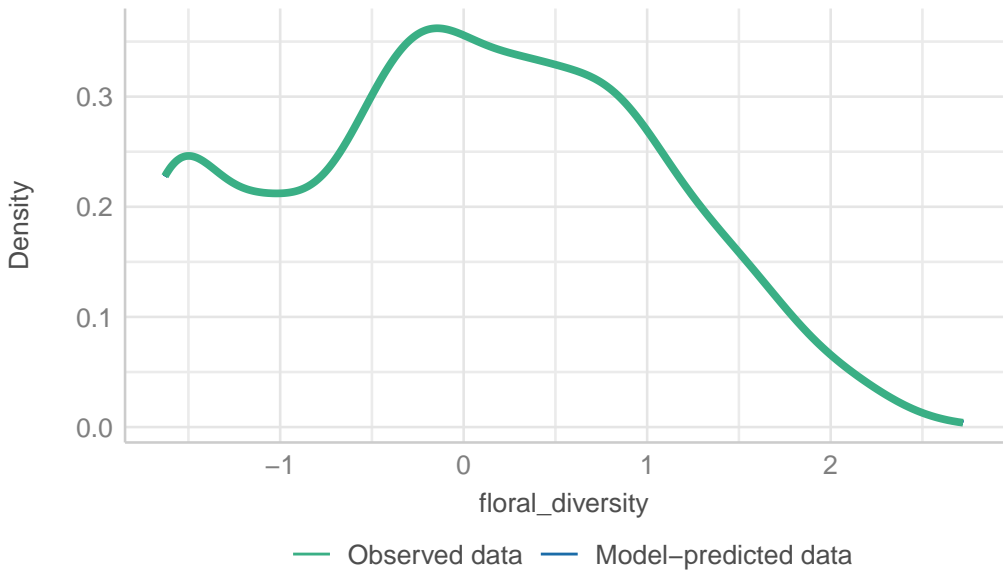Model–predicted lines should resemble observed data line

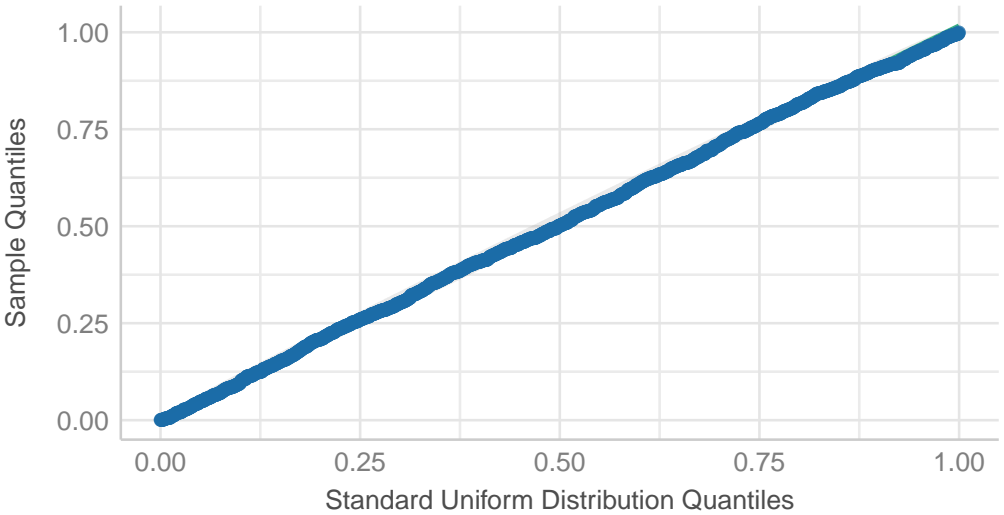Density vs floral_diversity

— Observed data — Model–predicted data

Homogeneity of Variance
Reference line should be flat and horizontal

$\sqrt{|\text{Std. residuals}|}$ vs Fitted values
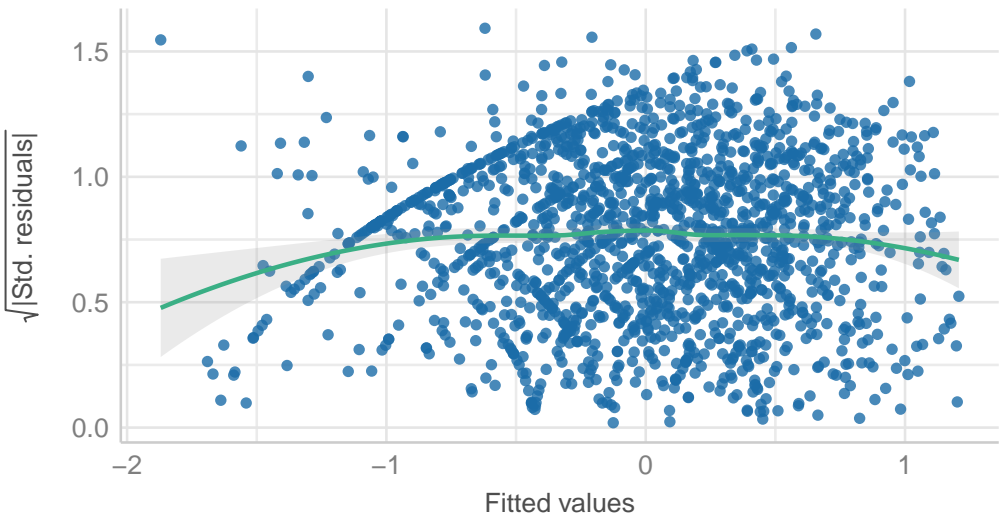
Collinearity
High collinearity (VIF) may inflate parameter uncertainty

Variance Inflation Factor (VIF, log–scaled)

I(julian_date^2)   julian_date

Low (< 5)
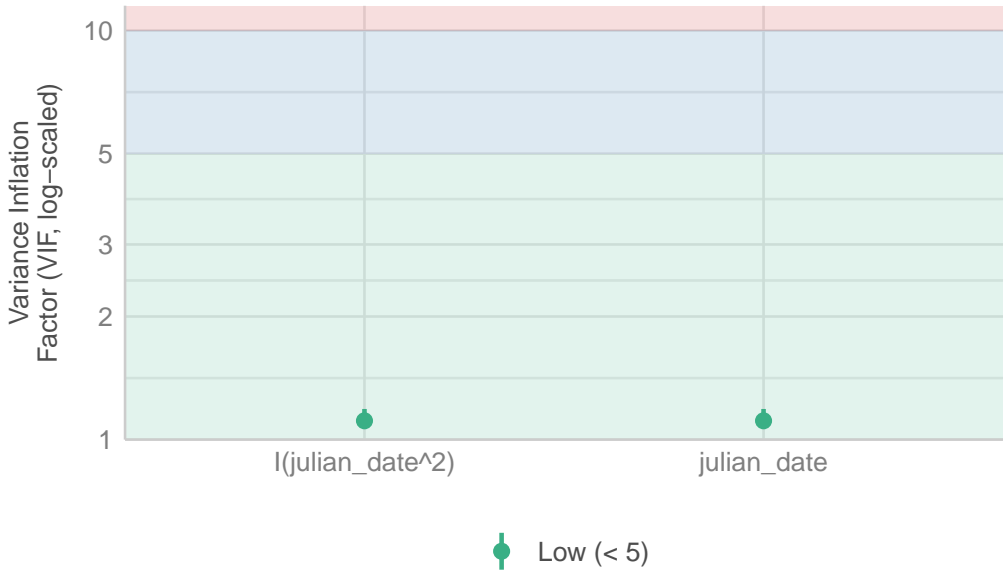
Uniformity of Residuals
Dots should fall along the line

Sample Quantiles vs Standard Uniform Distribution Quantiles

Normality of Random Effects (sample_pt)
Dots should be plotted along the line

RE Quantiles vs Theoretical Quantiles