Posterior Predictive Check Overdispersion and zero-inflation Model-predicted lines should resemble observed data line Observed residual variance (green) should follow predicted residual 0.100 Residual variance 0.075 0 Density 0.050 -500 0.025 0.000 0 300 100 200 300 100 200 Species_richness Predicted mean Observed data - Model-predicted data Homogeneity of Variance Influential Observations Reference line should be flat and horizontal Points should be inside the contour lines Std. residuals Std. Residuals 3 50 2 0 300 200 0.0 0.1 0.2 100 0.3 Leverage (hii) Fitted values Collinearity Normality of Residuals Deviance Residuals Deviance Residuals Deviance Residuals Deviance Residuals Double Ine To provide the line To provide the line residuals To provide the line residuals High collinearity (VIF) may inflate parameter uncertainty Factor (VIF, log-scale Variance Inflation 10000 1000 100 10 LULLU: BOHTBute Ermé a o Anaby Faiby Wald Ernolesa o Anaby Raby F 100 200 300 Standard Normal Distribution Quantiles ♦ Low (< 5) ♦ Moderate (< 10) ♦ High (= 10) Normality of Random Effects (SSBS) Normality of Random Effects (SSB) Dots should be plotted along the line Dots should be plotted along the line 1.0 RE Quantiles RE Quantiles 0.5 0 0.0 -0.5 -2 -2 0 0 Theoretical Quantiles Theoretical Quantiles Normality of Random Effects (SS) Dots should be plotted along the line 5.0 RE Quantiles 2.5 0.0

-2.5

-3

-2

0

Theoretical Quantiles

2

3