

**Supplemental Tables S1** Model comparison of linear and polynomial regression. If the  $P < 0.05$ , binomial regression is chosen; otherwise, linear regression is chosen. The designation \*\* signifies that  $P < 0.01$ .

Data	Beta		Res.Df	RSS.Df	Sum of Sq	<i>F</i>	<i>P</i>
	indices	Model					
Abundance	beta	Y~X	26	0.5222			
		Y~X+I(X^2)	25	0.37273	0.14948	10.026	0.004**
	turnover	Y~X	26	0.5475			
		Y~X+I(X^2)	25	0.3959	0.15161	9.5746	0.005**
	nestedness	Y~X	26	0.0499			
		Y~X+I(X^2)	25	0.0499	7.54E-06	0.0038	0.952
Presence-absence	beta	Y~X	26	0.2033			
		Y~X+I(X^2)	25	0.1889	0.014375	1.9023	0.18
	turnover	Y~X	26	0.3466			
		Y~X+I(X^2)	25	0.3249	0.021671	1.6673	0.208
	nestedness	Y~X	26	0.0528			
		Y~X+I(X^2)	25	0.0521	0.000746	0.3581	0.555