

SUPPLEMENTARY MATERIAL

## Supplementary material article: Effect of the matrix-edge-forest interior gradient on the phyllostomid bats assemblage in sub-Andean forest fragments

Material suplementario del artículo: Efecto del gradiente matriz-borde-interior de bosque sobre la comunidad de murciélagos filostómidos en fragmentos de bosque subandino

**Citation:** Otálora-Ardila A, López-Arévalo HF. 2021. Effect of the matrix-edge-forest interior gradient on the phyllostomid bats assemblage in sub-Andean forest fragments. *Caldasia* 43(2):274–285. doi: <https://doi.org/10.15446/caldasia.v43n2.85071>

**Table 1.** Model summary of the GLMMs for the effect of the gradient sampling station (matrix, edge, 75m, 150m) on bat richness and bat abundance. GLMM was fitted using a Poisson error structure and a log link function with fragment as a random factor. Significant p-values (<0.05) are given in bold. SE= Standard Error.

Model:  $Y \sim \text{Gradient sampling station} + (1 | \text{Fragment})$

### Richness

	Estimate	SE	Z	P
(Intercept)	0.8273	0.2149	3.85	<b>0.0001</b>
75m	0.1018	0.2601	0.391	0.6955
Edge	0.9163	0.2231	4.107	<b>4.01E-05</b>
Matrix	0.9583	0.2218	4.321	<b>1.56E-05</b>
	Variance	SD		
Random effect: Fragment	0.04138	0.2034		

### Abundance

	Estimate	SE	Z	P
(Intercept)	1.8667	0.189	9.876	<b>2.00 E-15</b>
75m	-0.1318	0.1623	-0.812	0.41
Edge	0.8473	0.1326	6.39	<b>1.66E-10</b>
Matrix	1.0217	0.1294	7.896	<b>2.87E-15</b>
	Variance	SD		
Random effect: Fragment	0.09296	0.3049		

**Table 2.** Post-hoc multiple comparisons of means using Tukey's all-pairwise comparisons to determine differences in bat richness and bat abundance across gradient sampling stations. Significant post-hoc comparisons are given in bold (p-values <0.05). SE= Standard Error.

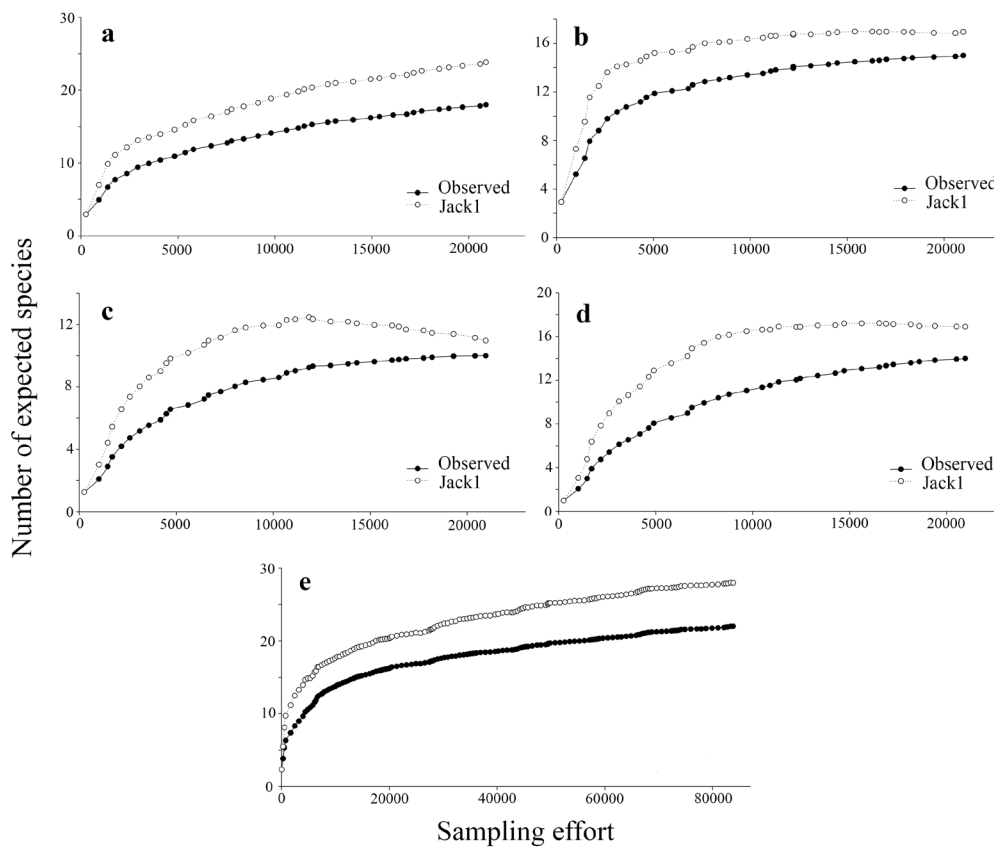
Richness				
Fixed effect	Estimate	SE	Z	P
75m vs 150m	0.1018	0.26013	0.391	0.98
edge vs 150m	0.9163	0.22311	4.107	<b>0.0002</b>
matrix vs 150m	0.95827	0.22179	4.321	<b>0.0001</b>
edge vs 75m	0.8145	0.21526	3.784	<b>0.0009</b>
matrix vs 75m	0.85647	0.2139	4.004	<b>0.0004</b>
matrix vs edge	0.04197	0.16691	0.251	0.99
Abundance				
Fixed effect	Estimate	SE	Z	P
75m vs 150m	-0.13176	0.16233	-0.812	0.84
edge vs 150m	0.84731	0.1326	6.39	<b>0.0001</b>
matrix vs 150m	1.02166	0.12938	7.896	<b>0.00008</b>
edge vs 75m	0.97907	0.13899	7.044	<b>0.00009</b>
matrix vs 75m	1.15342	0.13592	8.486	<b>0.00006</b>
matrix vs edge	0.17435	0.09852	1.77	0.28

**Table 3.** Post-hoc multiple comparisons of means using Wilcoxon pairwise comparisons to determine differences in the inverse of Simpson index across gradient sampling stations and between fragments. Significant post-hoc comparisons are given in bold (p-values <0.05).

Gradient sampling station	P
75m vs 150m	0.79
edge vs 150m	<b>0.03</b>
matrix vs 150m	<b>0.0081</b>
edge vs 75m	0.06
matrix vs 75m	0.06
matrix vs edge	0.79
Fragment	P
Cachalú vs Pericos	0.34
Cachalú vs San Benito	0.34
Cachalú vs Tapias	0.37
San Benito vs Pericos	<b>0.03</b>
San Benito vs Tapias	<b>0.03</b>
Pericos vs Tapias	0.82

**Table 4.** Results of multivariate generalized linear model analysis testing for the effect of the gradient sampling station (matrix, edge, 75m, 150m) and fragment (Cachalú, Pericos, San Benito, and Tapias) on assemblage composition and species abundance for each trophic guilds. Significant p-values for predictor variables are given in bold and only species with p-values <0.05 in adjusted post-hoc univariate tests are shown.

Nectarivorous			
Predictor variable	Deviance	P	Species
Gradiente sampling station	11.27	0.36	NA
Fragment	15.83	0.13	NA
Shrub frugivorous			
Predictor variable	Deviance	P	Species
Gradiente sampling station	47.44	<b>0.004</b>	<i>S. liliium</i>
Fragment	62.39	<b>0.001</b>	<i>C. brevicauda</i> <i>S. ludovici</i>
Canopy frugivorous			
Predictor variable	Deviance	P	Species
Gradiente sampling station	39.51	0.14	NA
Fragment	70.12	<b>0.001</b>	<i>A. lituratus</i>



**Figure 1.** Species accumulation curves for captured individuals in **a.** matrix, **b.** edge, **c.** 75m, **d.** 150m, and **e.** total sampling, in four Sub-Andean forest fragments in Encino (Santander, Colombia).