

Table S1. Competing case-control conditional logistic regression models predicting nest-site selection of secondary cavity nesters in *Schinopsis balansae* forest in the humid Chaco of Argentina, their degrees of freedom (Df), negative log likelihood (-logLik), difference between AICc and the AICc of the top-ranked model (Δ AICc), model weight (w_i), and area under the curve of the receiver operating characteristic (AUC). For all models, the response variable was use of the cavity for nesting (nest vs. random). n = 155 cases/155 controls. Bold indicates parameters with odds ratios whose 95% CIs do not include 1.

Model	Predictor variables	Df	-logLik	Δ AICc	w_i	AUC
Nest-site	Entrance size, Depth, Cavity height, features Floor diameter, DBH, Tree condition: live, interact with patch-level canopy cover, Body size, Body body size size*entrance size, Body size*depth, Body size*cavity height, Body size*floor diameter, Body size*DBH, Body size* Tree condition (live/dead), Body size*10-m canopy cover.	15	56.4	0	0.99	0.9
Cavity level	Entrance size, Depth, Cavity height, Floor diameter, Thickness of cavity wall, Cavity canopy cover, Visibility at cavity height, Visibility at ground height	8	185.5	42.6	0.005	0.8
Nest	Patch-level canopy cover, Number of trees	14	183.9	43.1	0.005	0.8
patch-Tree-Ca	in 11.3-m radius, Tree condition: live, vity. Full model DBH, trunk touching ground vegetation: yes, % crown touching other trees, Entrance					

size, Depth, Cavity height, Floor

diameter, Thickness of cavity wall, Cavity

canopy cover, Visibility at cavity height,

Visibility at ground height

Nest patch	Patch canopy cover , Number of trees in	2	212.1	68.3	0	0.6
level	11.3-m radius					
Tree level	Tree condition: live, DBH, touching ground	4	216.6	73.1	0	0.6
	vegetation: yes, % nest tree crown touching					
	other trees					

Table S2. Parameter estimates (b), standard errors (SE) and associated odds ratios with 95% confidence intervals, for the predictor variables from non-top conditional logistic regression models predicting nest-site selection by secondary cavity-nesting birds in *Schinopsis balansae* forest of the humid Chaco, Argentina. Bold indicates parameters with odds ratios whose 95% CIs do not include 1 (in bold). An odds ratio >1 indicates that the predictor is associated with increased odds of the cavity containing a nest, and an odds ratio <1 indicates that the predictor is associated with decreased odds of the cavity containing a nest.

Predictor variable	<i>b</i>	SE	<i>Z</i>	<i>p</i>	Odds ratio (95% CI)
<i>Nest patch Model</i>					
Number of trees in 11.3 m radius	-0.01	0.01	-0.71	0.47	0.99 (0.97–1.009)
Nest patch canopy cover	-0.33	0.15	-2.19	0.03	0.72 (0.53–0.96)
<i>Tree Model</i>					
Trunk touching ground vegetation: yes	-0.25	0.24	-1.02	0.31	0.79 (0.49–1.25)
% nest tree crown touching other trees	-0.59	0.51	-1.18	0.24	0.55 (0.21–1.51)
Tree condition: live	-0.54	0.45	-1.21	0.22	0.58 (0.24–1.41)
DBH	0.25	0.14	1.78	0.07	1.28 (0.97–1.69)
<i>Cavity Model</i>					
Cavity canopy cover	0.002	0.01	0.26	0.79	1.01 (0.98–1.02)
Cavity depth	0.07	0.15	0.44	0.66	1.07 (0.79–1.44)
Thickness of cavity wall	-0.09	0.09	-1.09	0.27	0.91 (0.077–1.09)
Visibility at cavity height	0.01	0.009	1.11	0.27	1.01 (0.99–1.03)
Visibility at ground height	-0.009	0.008	-1.11	0.27	0.99 (0.97–1.01)
Cavity height	0.51	0.16	3.12	0.002	1.66 (1.22–2.28)
Entrance size	-0.64	0.16	-4.1	<0.001	0.53 (0.38–0.72)
Floor diameter	0.75	0.22	3.42	<0.001	2.12 (1.37–3.26)
<i>Nest patch-Tree-Cavity Model</i>					
Number of trees in 11.3 m radius	-0.003	0.02	-0.19	0.85	0.99 (0.96–1.04)
% nest tree crown touching other trees	-0.33	0.61	-0.55	0.58	0.72 (0.22–2.38)
Thickness of cavity wall	-0.06	0.10	-0.59	0.55	0.94 (0.77–1.14)
Cavity depth	0.11	0.16	0.66	0.51	1.12 (0.81–1.53)
Trunk touching ground vegetation: yes	-0.22	0.31	-0.71	0.48	0.80 (0.44–1.47)
Visibility at cavity height	0.007	0.01	0.71	0.48	1.007 (0.99–1.03)
Cavity canopy cover	0.01	0.01	1.04	0.30	1.01 (0.99–1.03)
Visibility at ground height	-0.009	0.009	-1.08	0.28	0.99 (0.97–1.01)

DBH	-0.25	0.20	-1.24	0.22	0.79 (0.53–1.15)
Nest patch canopy cover	-0.29	0.18	-1.62	0.10	0.75 (0.52–1.06)
Tree condition: live	-1.34	0.56	-2.38	0.01	0.26 (0.09–0.78)
Entrance size	-0.70	0.16	-4.35	<0.001	0.49 (0.36–0.68)
Cavity height	0.71	0.20	3.61	<0.001	2.03 (1.37–3.01)
Floor diameter	0.89	0.25	3.55	<0.001	2.43 (1.49–3.97)

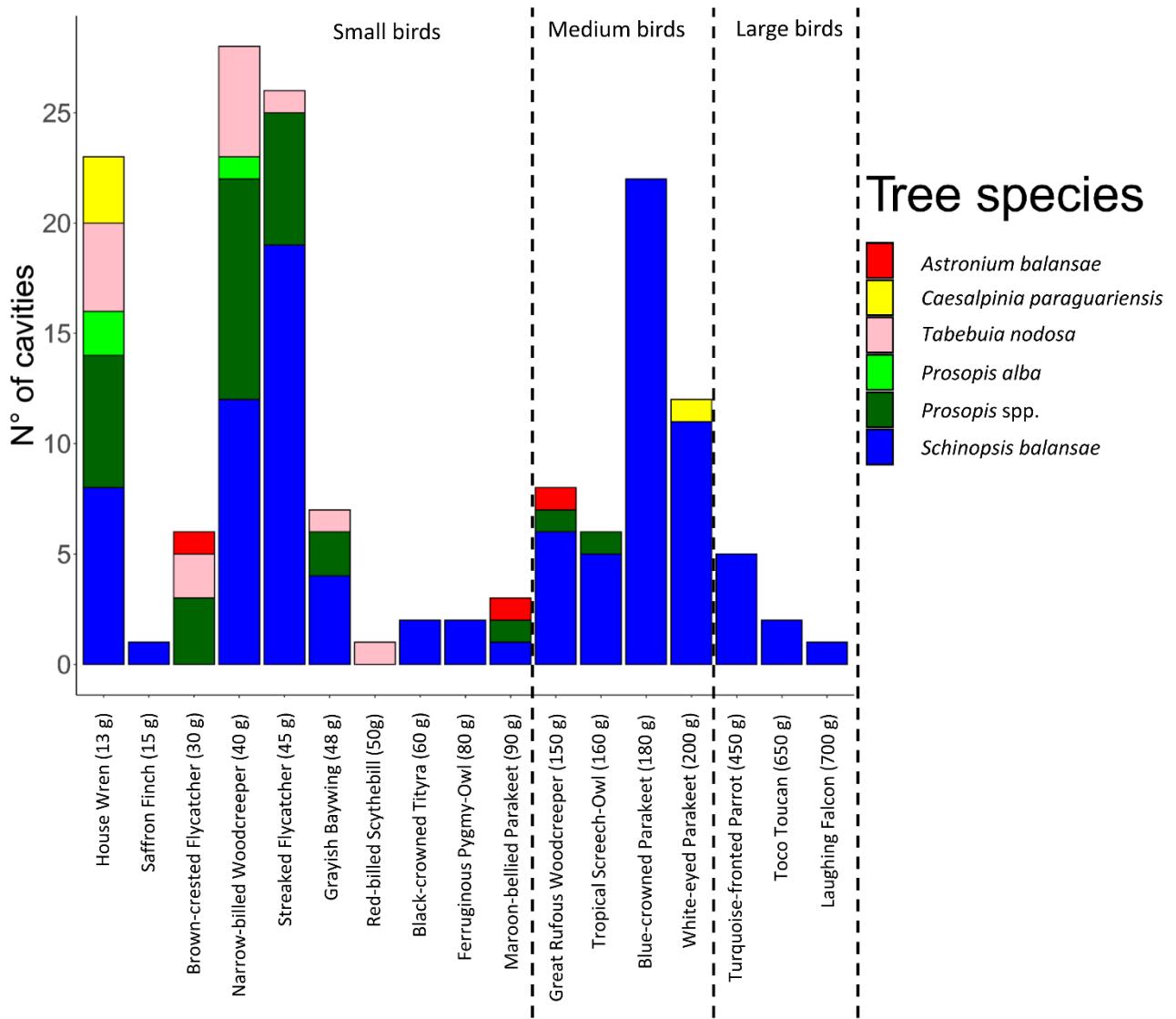


Figure S1. Number of cavities used by each species of secondary cavity-nesting bird, separated by tree species. Bird species are arranged left to right in order of increasing body mass. Whereas small birds (13–90 g) nested in a range of tree species, medium (150–200 g) and large (400–700 g) birds were almost entirely restricted to Quebracho Colorado (*Schinopsis balansae*).

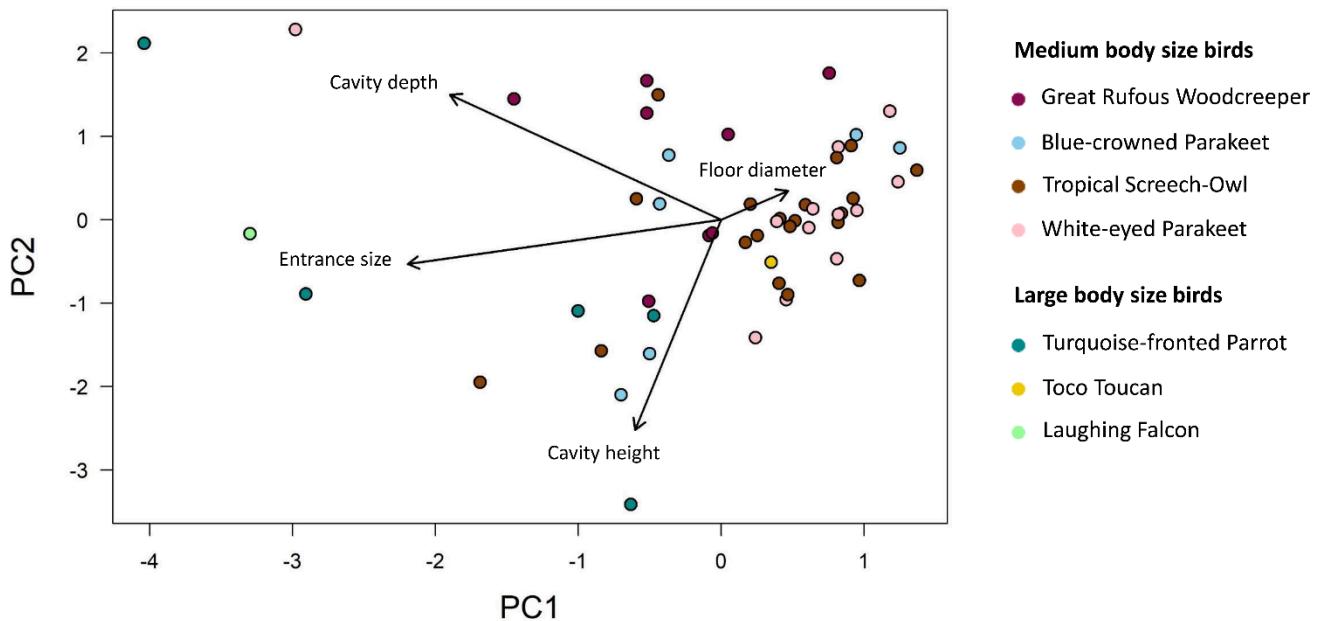


Figure S2. Principal Components Analysis of characteristics of nest cavities used by medium-bodied (100–400 g, n = 48) and large-bodied (>400 g, n = 8) secondary cavity-nesting birds in quebracho colorado forest of the humid Chaco. Principal components 1 and 2 explained 63% of the variation in nest cavity characteristics and were the two principal components with eigenvalues > 1. Principal component 1 was correlated with entrance size (-0.73) and cavity depth (-0.63). Principal component 2 was correlated with cavity height (-0.83).