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 (ΔAICc), 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	ΔAICc	w_i	AUC
Nest-site features interact with body size	**Entrance size**, **Depth**, **Cavity height**, **Floor diameter**, DBH, **Tree condition: live**, patch-level canopy cover, Body size, Body 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-Tree-Cavity. Full model	Patch-level canopy cover, Number of trees in 11.3-m radius, **Tree condition: live**, DBH, trunk touching ground vegetation: yes, % crown touching other trees, **Entrance**	14	183.9	43.1	0.005	0.8

	size, Depth, **Cavity height**, **Floor diameter**, Thickness of cavity wall, Cavity canopy cover, Visibility at cavity height, Visibility at ground height					
Nest patch level	**Patch canopy cover**, Number of trees in 11.3-m radius	2	212.1	68.3	0	0.6
Tree level	Tree condition: live, DBH, touching ground vegetation: yes, % nest tree crown touching other trees	4	216.6	73.1	0	0.6

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	*b*	SE	*Z*	*p*	Odds ratio (95% CI)
Nest patch Model					
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)
Tree Model					
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)
Cavity Model					
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 (.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)**
Nest patch-Tree-Cavity Model					
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)**

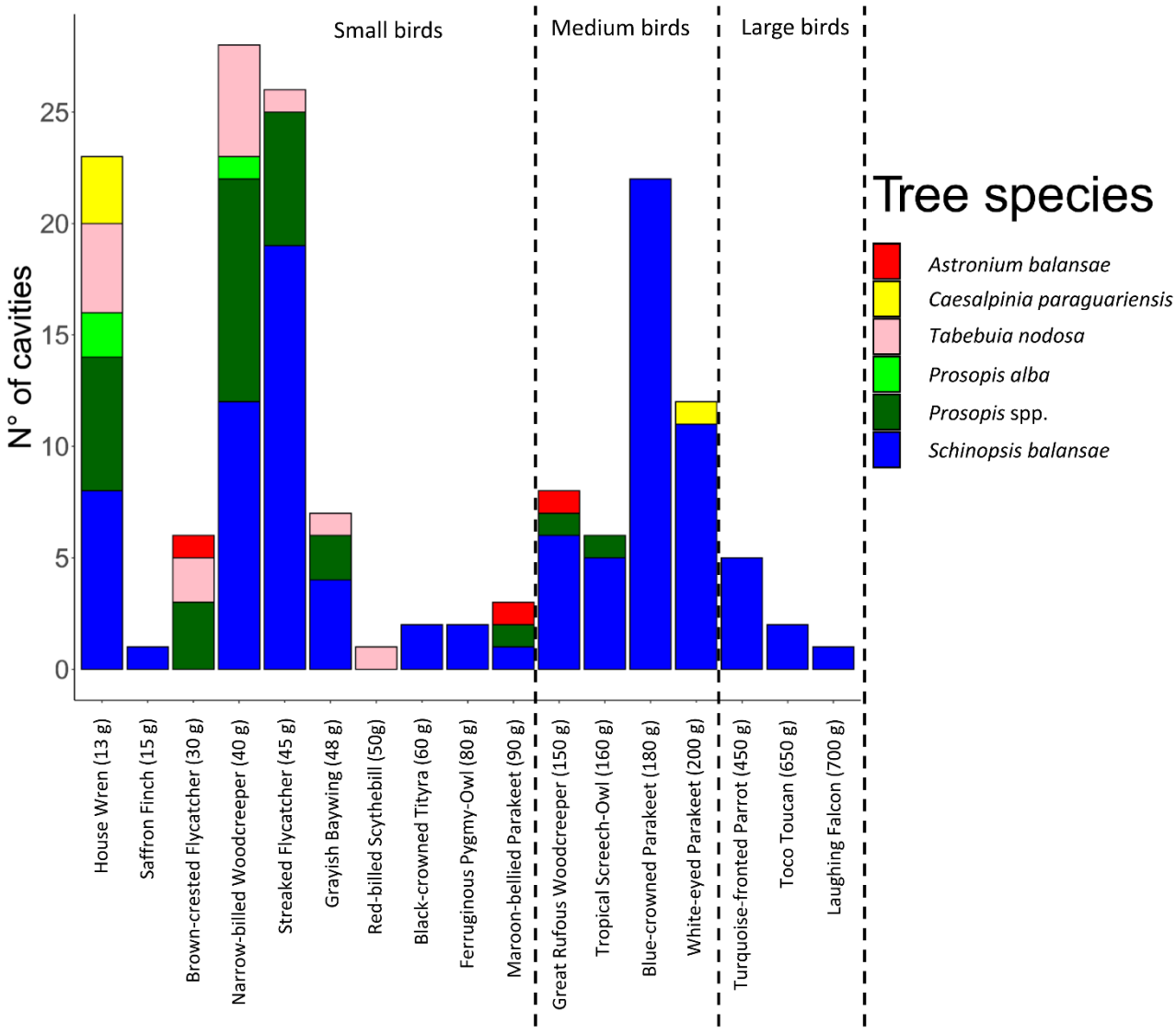


Figure S1. Number of cavities used by each species of secondary cavity-nesting bird, separated by tree species. Bird species are arranged left to right in order of increasing body mass. Whereas small birds (13–90 g) nested in a range of tree species, medium (150–200 g) and large (400–700 g) birds were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

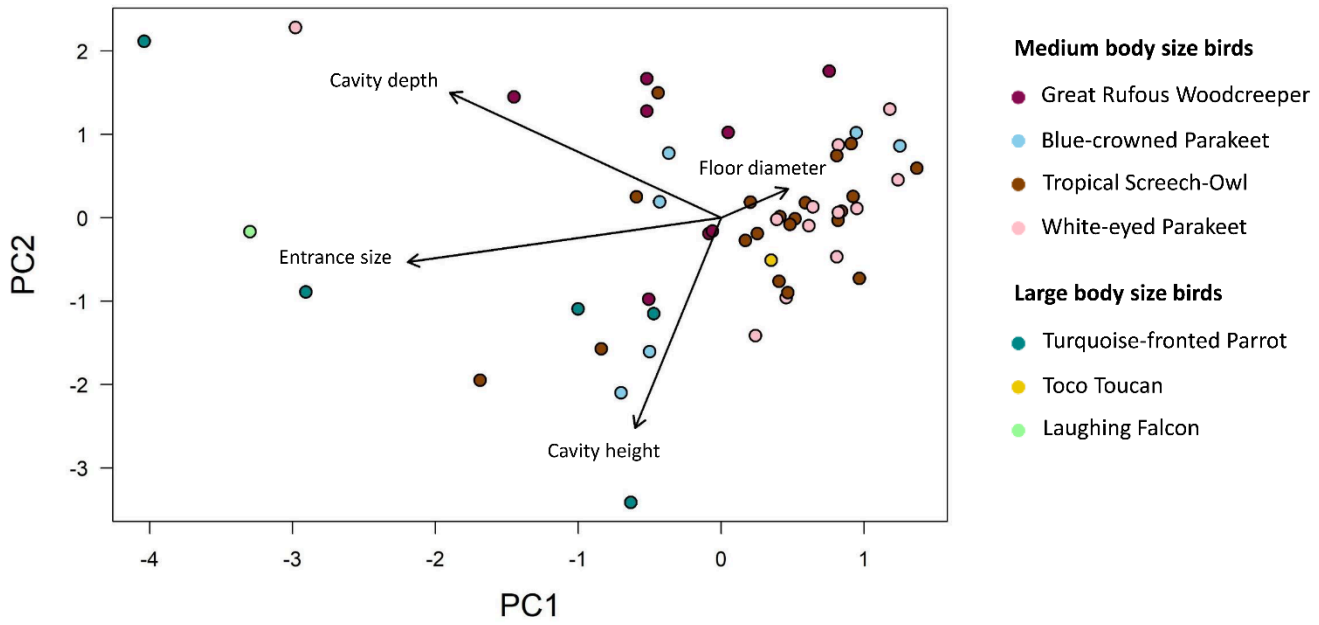


Figure S2. Principal Components Analysis of characteristics of nest cavities used by medium-bodied (100–400 g, n = 48) and large-bodied (>400 g, n = 8) secondary cavity-nesting birds in quebracho colorado forest of the humid Chaco. Principal components 1 and 2 explained 63% of the variation in nest cavity 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).