

TABLE S1. Summary (average \pm SD) of habitat complexity measures for *B. arachnoides* locations. Kruskal-Wallis Rank Sum test statistics (KW) and probabilities are given to compare habitat differences within southern muriqui locations. NA indicates not applicable.

Habitat characteristics	<i>Brachyteles arachnoides</i> locations								KW	<i>p</i>	Significant multiple comparisons
	EEB ^a		PNSO ^b		PED ^c		PECB ^d				
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Altitude (m)	1375.3	86.8	1372.4	132.1	1236.0	133.7	796.3	59.6	202.1	<0.001	a-d; a-c; c-d; b-d; b-c
Canopy height (m)	16.3	3.4	12.3	4.5	12.1	4.2	14.5	3.4	49.3	<0.001	a-d; a-c; a-b; b-d
Canopy density	3.2	0.8	3.4	0.7	3.1	0.9	3.5	0.7	10.0	0.018	-
Canopy continuity	2.1	0.7	2.1	0.8	1.9	0.8	2.3	0.6	9.2	0.026	-
Mid-story density	2.3	0.8	2.3	0.9	1.9	0.8	2.1	0.7	8.8	0.032	-
Liana density	0.9	0.8	1.1	0.8	1.2	1.0	1.0	0.7	2.8	0.422	-
Number of layers	0.5	0.9	0.4	0.8	0.5	0.8	0.2	0.7	7.9	0.048	-
Epiphyte density	2.5	0.8	2.4	1.0	2.1	1.2	2.8	0.8	19.6	<0.001	a-c
DBH (cm)	23.3	16.3	22.4	13.4	19.2	10.3	22.3	14.1	4.4	0.225	-
Density of trees (ind./ha)	965.0		742.1		903.5		1246.5		NA	NA	NA

TABLE S2. Summary (average \pm SD) of habitat complexity measures for *B. hypoxanthus* locations. Kruskal-Wallis Rank Sum test statistics (KW) and probabilities are given to compare habitat differences within northern muriqui locations, except for Altitude* where Wilcoxon Rank Sum tests were carried out (see text for a more detailed explanation). NA indicates not applicable.

Habitat characteristics	<i>Brachyteles hypoxanthus</i> locations								KW	<i>p</i>	Significant multiple comparisons
	PEI ^e		PERD ^f		PESB ^g		RPPN-FMA ^h				
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>			
Altitude (m)	-		259.3	17.8	1225.7	79.2	-		110.7 *	<0.001	NA
Canopy height (m)	13.6	4.2	15.3	4.3	12.9	3.4	12.0	4.5	34.3	<0.001	f-g; f-h
Canopy density	2.4	0.9	2.9	0.8	2.9	0.9	2.1	0.7	43.5	<0.001	f-h; g-h
Canopy continuity	1.7	1.0	1.8	0.7	1.9	0.8	1.4	0.6	19.8	<0.001	f-h; g-h
Mid-story density	1.8	0.7	2.1	0.8	2.1	0.9	1.9	0.7	3.9	0.271	-
Liana density	0.7	0.7	1.6	0.9	1.2	0.6	1.6	1.1	55.5	<0.001	e-f; e-g; e-h
Number of layers	0.4	0.9	0.6	1.0	0.8	1.0	0.1	0.3	37.6	<0.001	g-h
Epiphyte density	0.4	0.7	0.9	1.1	0.9	1.1	0.0	0.2	67.5	<0.001	f-h; g-h
DBH (cm)	21.4	14.5	22.1	17.8	19.9	10.1	18.5	12.7	23.9	<0.001	e-h; f-h; g-h
Density of trees (ind./ha)	711.3		640.0		900.8		553.2		NA	NA	NA