

**HABITAT QUALITY AND THE RANGING ECOLOGY OF THE WOOLLY  
SPIDER MONKEYS (*BRACHYTELES HYPOXANTHUS*)<sup>1</sup>**

**SUPPLEMENTARY MATERIAL**

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Figure 1- Aerial view of a large clump of *Chusquea capitata* Nees, an indigenous bamboo, at understory of the non-core area (NCA) of the woolly spider monkeys, Brigadeiro State Park, May, 2009. Photo by JAA Meira-Neto.

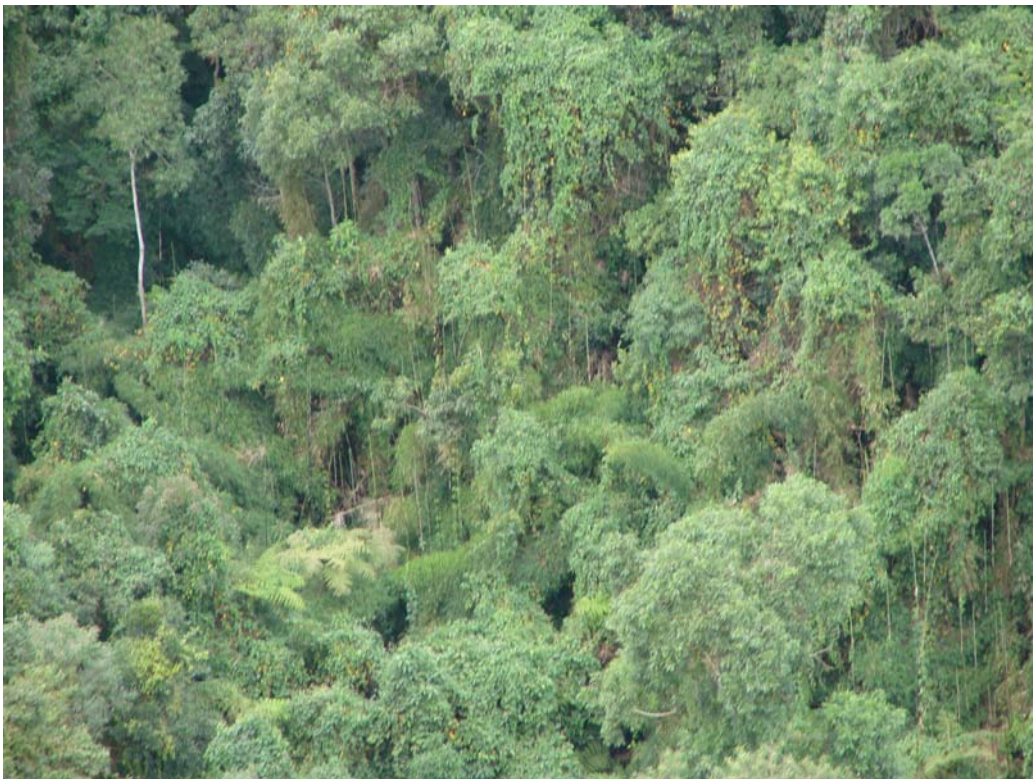


Figure 2- Aerial view of a cluster of large clumps of *Chusquea capitata* Nees among crowns of trees at the non-core area (NCA) of the woolly spider monkeys, Brigadeiro State Park, May, 2009. Photo by JAA Meira-Neto.



Figure 3- Aerial view of a monkey in a pathway of connected crowns at the core area (CA) of *Brachyteles hypoxanthus*, Brigadeiro State Park, May, 2009. Photo by BAP Cosenza.

## METHODS

These forests structures were described using the following parameters (Mueller-Dombois and Ellenberg, 1974; Newton, 2007):

N – Number of individuals sampled;

RA - relative abundance (the ratio of individuals of a tree species to total number of sampled trees);

AA – absolute abundance (the number of individuals of a tree species in one hectare (10.000m<sup>2</sup>));

RBA – relative basal area (the ratio of basal area of a tree species to total basal of the sample);

ABA – absolute basal area (the basal area of a tree species in one hectare);

FR – relative frequency (the ratio of number of sample units with a tree species to the sum of the number of sample units of each tree species);

IV – importance value (RA+RBA+FR).

## RESULTS

Table 1 – Structure parameters of the non-core area (NCA) of forest of The Brigadeiro State Park (BSP): N, sampled trees; RA, relative abundance; AA, absolute abundance (n/ha); RBA, relative basal area; ABA, absolute basal area (m<sup>2</sup>/ha); FR, frequency; IV, importance value; PF RATIO, protein-to-fibre ratio of most important species (IV), except those found only with leaves mature or young (without mix of both). \* are pioneer species, \*\* are late successional species.

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Sapium glandulosum</i>	94	11.75	124.1	9.85	2.5065	9.91	31.51	0.581
<i>Croton floribundus</i> *	56	7.00	73.2	14.71	3.7156	6.36	28.08	0.256
<i>Solanum leucodendron</i>	63	7.88	82.3	11.70	2.9532	8.14	27.71	0.353
<i>Alchornea triplinervia</i>	68	8.50	88.8	10.65	2.6884	7.84	26.99	0.322
<i>Solanum cinnamomeum</i>	20	2.50	26.1	4.96	1.2523	2.51	9.97	0.353
<i>Cyathea delgadii</i> **	33	4.13	43.1	1.81	0.4574	3.70	9.63	0.259
<i>Psychotria capitata</i>	23	2.88	30.0	1.11	0.2792	2.96	6.94	0.320
<i>Vernonia diffusa</i>	14	1.75	27.4	2.64	0.5463	1.63	6.01	0.329
<i>Myrsine umbellata</i> *	20	2.50	18.3	1.20	0.6656	2.22	5.92	0.182
<i>Acalypha brasiliensis</i>	20	2.50	26.1	1.49	0.3025	1.78	5.76	0.431
<i>Cecropia glaziovii</i> *	12	1.50	15.7	1.46	0.3677	1.63	4.58	0.320
<i>Nectandra oppositifolia</i>	6	0.75	7.8	2.79	0.7042	0.89	4.43	0.207
<i>Solanum swartzianum</i>	12	1.50	15.7	0.76	0.1913	1.48	3.74	0.359
<i>Miconia tristis</i>	12	1.50	15.7	0.70	0.1772	1.48	3.68	0.357
<i>Croton sp</i>	14	1.75	18.3	0.50	0.1269	1.18	3.44	0.440
<i>Cyathea rufa</i>	11	1.38	14.4	0.84	0.2114	1.18	3.40	0.241
<i>Bathysa meridionalis</i>	12	1.50	15.7	0.55	0.1395	1.33	3.38	0.270
<i>Clusia arrudea</i>	7	0.88	9.1	1.37	0.3452	1.04	3.28	0.131
<i>Erythrina falcata</i>	8	1.00	10.5	1.07	0.2692	1.18	3.25	0.356
<i>Lauraceae 1</i>	3	0.38	3.9	2.32	0.5868	0.44	3.14	
<i>Aspidosperma parvifolium</i>	9	1.13	13.1	0.77	0.1951	1.18	3.08	0.349
<i>Myrsine ferruginea</i>	10	1.25	11.8	0.42	0.1068	1.33	3.00	0.171
<i>Inga laurina</i> *	9	1.13	10.5	0.41	0.1030	1.33	2.86	0.288
<i>Guatteria nigrescens</i> **	8	1.00	11.8	0.40	0.1000	1.18	2.58	0.225
<i>Eupatorium inulifolium</i>	9	1.13	2.6	0.53	0.1336	0.89	2.54	0.457
<i>Indeterminada 2</i>	2	0.25	9.1	1.80	0.4555	0.30	2.35	
<i>Persea pyrifolia</i>	7	0.88	7.8	0.58	0.1469	0.89	2.34	0.228
<i>Dasyphyllum microcephala</i>	6	0.75	9.1	0.69	0.1739	0.89	2.33	0.283
<i>Psychotria sessilis</i>	7	0.88	9.1	0.22	0.0544	1.04	2.13	0.320
<i>Trichilia magnifoliola</i>	7	0.88	7.8	0.19	0.0491	1.04	2.11	0.265
<i>Aegiphila sellowiana</i> *	6	0.75	7.8	0.42	0.1061	0.89	2.06	0.321
<i>Lamanonia ternata</i>	6	0.75	6.5	0.38	0.0971	0.89	2.02	0.225
<i>Ocotea odorifera</i> **	5	0.63	6.5	0.50	0.1332	0.74	1.87	0.177
<i>Inga sessilis</i> *	4	0.50	5.2	0.73	0.1274	0.59	1.82	0.279
<i>Annona cacans</i>	5	0.63	6.5	0.45	0.1833	0.74	1.82	0.350
<i>Cabrlea canjerana</i>	6	0.75	7.8	0.30	0.1139	0.74	1.79	
<i>Sorocea bonplandii</i>	6	0.75	7.8	0.23	0.0752	0.74	1.72	0.271
<i>Calyptanthes clusiaefolia</i> **	6	0.75	7.8	0.20	0.0586	0.74	1.69	0.190
<i>Piptocarpha macropoda</i> *	4	0.50	5.2	0.59	0.0501	0.59	1.68	0.269

To be continued...

Table 1 - Continuation

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Lonchocarpus muehlbergianus</i>	2	0.25	2.6	1.24	0.1483	0.15	1.63	
<i>Nectandra cuspidata</i>	4	0.50	5.2	0.52	0.3122	0.59	1.61	0.237
<i>Allophylus edulis</i>	4	0.50	5.2	0.51	0.1296	0.59	1.61	0.242
<i>Piper sp1</i>	5	0.63	6.5	0.12	0.1064	0.74	1.48	0.574
<i>Guapira opposita</i>	3	0.38	6.5	0.77	0.0302	0.30	1.44	
<i>Machaerium cf. vestitum</i>	5	0.63	5.2	0.18	0.0462	0.59	1.40	0.310
<i>Miconia eichleri</i>	4	0.50	6.5	0.29	0.0735	0.59	1.38	0.311
<i>Kielmeyera albopunctata</i>	5	0.63	5.2	0.16	0.0393	0.59	1.37	0.224
<i>Cinnamomum glaziovii</i>	4	0.50	3.9	0.24	0.0605	0.59	1.33	0.169
<i>Trichilia hirta</i>	3	0.38	2.6	0.51	0.1278	0.44	1.32	0.250
<i>Schefflera sp</i>	2	0.25	5.2	0.77	0.1937	0.30	1.31	0.242
<i>Psychotria sp</i>	4	0.50	5.2	0.15	0.0372	0.59	1.24	
<i>Campomanesia guaviroba**</i>	4	0.50	1.3	0.10	0.0251	0.59	1.19	0.259
<i>Pouteria sp</i>	1	0.13	3.9	0.85	0.2156	0.15	1.13	
<i>Cordia sellowiana</i>	3	0.38	3.9	0.30	0.0761	0.44	1.12	0.229
<i>Ocotea grandiflora</i>	3	0.38	1.3	0.43	0.1076	0.30	1.10	
<i>Maytenus evonymoides</i>	3	0.38	3.9	0.25	0.1951	0.44	1.07	0.236
<i>Siparuna guianensis</i>	1	0.13	3.9	0.77	0.0558	0.15	1.05	
<i>Tapirira guianensis</i>	3	0.38	3.9	0.22	0.0487	0.44	1.04	0.201
<i>Trichilia silvatica</i>	3	0.38	3.9	0.19	0.0477	0.44	1.01	0.254
<i>Allophylus sericeus</i>	3	0.38	3.9	0.19	0.0454	0.44	1.01	
<i>Miconia budlejoides</i>	3	0.38	3.9	0.18	0.0402	0.44	1.00	0.301
<i>Cedrella fissilis</i>	3	0.38	3.9	0.16	0.0374	0.44	0.98	0.196
<i>Ocotea minarum</i>	3	0.38	3.9	0.15	0.0321	0.44	0.97	
<i>Zanthoxylum rhoifolium</i>	3	0.38	3.9	0.13	0.0293	0.44	0.95	
<i>Pouteria laurifolia</i>	3	0.38	2.6	0.12	0.0242	0.44	0.93	0.208
<i>Eupatorium angulicaule</i>	3	0.38	2.6	0.10	0.0911	0.44	0.91	
<i>Vernonanthura discolor</i>	2	0.25	3.9	0.36	0.0843	0.30	0.91	0.329
<i>Miconia sellowiana</i>	2	0.25	2.6	0.33	0.0150	0.30	0.88	
<i>Cupania vernalis</i>	3	0.38	2.6	0.06	0.0808	0.44	0.88	
<i>Dalbergia foliolosa</i>	2	0.25	2.6	0.32	0.0746	0.30	0.87	
<i>Trichilia pallida</i>	2	0.25	1.3	0.30	0.0714	0.30	0.84	
<i>Citronella megaphylla</i>	2	0.25	2.6	0.28	0.1351	0.30	0.83	
<i>Cecropia hololeuca</i>	1	0.13	2.6	0.54	0.0645	0.15	0.81	
<i>Miconia cf. latecrenada</i>	2	0.25	2.6	0.26	0.0617	0.30	0.80	
<i>Chrysophyllum gonocarpum</i>	2	0.25	2.6	0.24	0.0565	0.30	0.79	
<i>Sloanea guianensis</i>	2	0.25	1.3	0.22	0.0560	0.30	0.77	
<i>Nectandra lanceolata</i>	2	0.25	2.6	0.22	0.1213	0.30	0.77	
<i>Rollinia sylvatica</i>	1	0.13	1.3	0.48	0.0468	0.15	0.75	
<i>Casearia arborea</i>	2	0.25	2.6	0.19	0.1040	0.30	0.73	
<i>Persea sp</i>	1	0.13	2.6	0.41	0.0346	0.15	0.68	

To be continued...

Table 1 - Continuation

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Tibouchinia forthergillae</i>	2	0.25	1.3	0.14	0.0243	0.30	0.68	
<i>Casearia obliqua</i>	2	0.25	2.6	0.10	0.0877	0.30	0.64	
<i>Sloanea sp</i>	1	0.13	2.6	0.35	0.0128	0.15	0.62	
<i>Bathysa cuspidata</i>	2	0.25	2.6	0.05	0.0111	0.30	0.60	
<i>Meriania sp</i>	2	0.25	2.6	0.04	0.0103	0.30	0.59	
<i>Indeterminada 1</i>	2	0.25	1.3	0.04	0.0053	0.30	0.59	
<i>Rollinia sericea</i>	2	0.25	1.3	0.02	0.0742	0.30	0.57	
<i>Miconia sp</i>	1	0.13	1.3	0.29	0.0708	0.15	0.57	
<i>Sclerolobium rugosum</i>	1	0.13	1.3	0.28	0.0673	0.15	0.55	
<i>Matayba elaeagnoides</i>	1	0.13	1.3	0.27	0.0607	0.15	0.54	
<i>Sloanea monosperma</i>	1	0.13	1.3	0.24	0.0585	0.15	0.51	
<i>Ocotea nitidula</i>	1	0.13	1.3	0.23	0.0575	0.15	0.50	
<i>Micropholis sp</i>	1	0.13	1.3	0.23	0.0325	0.15	0.50	
<i>Meliosma itatiaiae</i>	1	0.13	1.3	0.17	0.0265	0.15	0.44	
<i>Mollinedia argyrogyna</i>	1	0.13	1.3	0.13	0.0258	0.15	0.40	
<i>Symplocos celastrina</i>	1	0.13	1.3	0.10	0.0215	0.15	0.38	
<i>Micropholis crassipedicellata</i>	1	0.13	1.3	0.10	0.0209	0.15	0.38	
<i>Symplocos cf. variabilis</i>	1	0.13	1.3	0.09	0.0191	0.15	0.36	
<i>Piper gigantifolium</i>	1	0.13	1.3	0.08	0.0183	0.15	0.36	
<i>Pausandra morisiana</i>	1	0.13	1.3	0.08	0.0142	0.15	0.35	
<i>Styrax cf. ferrugineus</i>	1	0.13	1.3	0.07	0.0142	0.15	0.35	
<i>Coussapoa microcarpa</i>	1	0.13	1.3	0.06	0.0138	0.15	0.33	
<i>Cedrella odorata</i>	1	0.13	1.3	0.06	0.0138	0.15	0.33	
<i>Astronium sp</i>	1	0.13	1.3	0.05	0.0124	0.15	0.33	
<i>Eugenia catharinensis</i>	1	0.13	1.3	0.05	0.0117	0.15	0.33	
<i>Tibouchina sp</i>	1	0.13	1.3	0.05	0.0113	0.15	0.32	
<i>Clethra scabra</i>	1	0.13	1.3	0.05	0.0101	0.15	0.32	
<i>Tibouchina granulosa</i>	1	0.13	1.3	0.04	0.0086	0.15	0.32	
<i>Sapotaceae 1</i>	1	0.13	1.3	0.04	0.0081	0.15	0.31	
<i>Calypttranthes lucida</i>	1	0.13	1.3	0.03	0.0076	0.15	0.31	
<i>Symplocos pubescens</i>	1	0.13	1.3	0.03	0.0076	0.15	0.31	
<i>Miconia fothergilla</i>	1	0.13	1.3	0.03	0.0073	0.15	0.30	
<i>Ocotea velutina</i>	1	0.13	1.3	0.03	0.0067	0.15	0.30	
<i>Eugenia lucida</i>	1	0.13	1.3	0.03	0.0062	0.15	0.30	
<i>Myrsine lineata</i>	1	0.13	1.3	0.03	0.0057	0.15	0.30	
<i>Tibouchina arborea</i>	1	0.13	1.3	0.02	0.0049	0.15	0.30	
<i>Eugenia involucrata</i>	1	0.13	1.3	0.02	0.0048	0.15	0.30	
<i>Ocotea teleiandra</i>	1	0.13	1.3	0.02	0.0045	0.15	0.29	
<i>Rubiaceae 1</i>	1	0.13	1.3	0.02	0.0044	0.15	0.29	
<i>Rheedia gardneriana</i>	1	0.13	1.3	0.02	0.0043	0.15	0.29	
<i>Amaioua guianensis</i>	1	0.13	1.3	0.02	0.0042	0.15	0.29	

To be continued...

Table 1 - Continuation

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Miconia theizans</i>	1	0.13	1.3	0.02	0.0042	0.15	0.29	
<i>Fuchsia sp</i>	1	0.13	1.3	0.02	0.0040	0.15	0.29	
<i>Myrcia fallax</i>	1	0.13	1.3	0.02	0.0039	0.15	0.29	
<i>Actinostemom sp</i>	1	0.13	1.3	0.02	0.0038	0.15	0.29	
<i>Euterpe edulis</i>	1	0.13	1.3	0.02	0.0031	0.15	0.29	
<i>Myrtaceae 1</i>	1	0.13	1.3	0.01	0.0030	0.15	0.29	
<i>Randia armata</i>	1	0.13	1.3	0.01	0.0030	0.15	0.29	
<i>Miconia mendocaei</i>	1	0.13	1.3	0.01	0.0023	0.15	0.28	
<i>Piper sp 2</i>	1	0.13	1.3	0.01	0.0001	0.15	0.28	
<i>Ocotea cf. acutangula</i>	1	0.13	1.3	0.01	0.0023	0.15	0.28	

Table 2 – Structure parameters of the core area (CA) of forest of The Brigadeiro State Park (BSP): N, sampled trees; RA, relative abundance; AA, absolute abundance (n/ha); RBA, relative basal area; ABA, absolute basal area (m<sup>2</sup>/ha); FR, frequency; IV, importance value; PF RATIO, protein-to-fibre ratio of most important species (IV), except those found only with leaves mature or young (without mix of both). \* are pioneer, \*\* are late successional species.

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Huberia sellowiana</i>	43	5.38	157.1	5	2.319	18.5	15.5	0.246
<i>Ixora gardneriana</i>	44	5.5	160.8	3.36	1.56	17	13.57	0.297
<i>Solanum cinamomifolium</i>	30	3.75	109.6	5.82	2.702	13.5	13.31	0.406
<i>Cletra scabra</i>	35	4.38	127.9	4.35	2.017	15.5	13.02	0.171
<i>Casearia arborea</i>	44	5.5	160.8	2.37	1.101	18.5	13	0.253
<i>Guatteria nigrensis</i> **	34	4.25	124.2	3.22	1.494	15	11.63	0.220
<i>Vochysia magnifica</i> **	9	1.13	32.9	9.09	4.216	4	11.32	0.334
Indet.	20	2.5	73.1	4.96	2.3	9	9.95	
<i>Myrcia splendens</i>	24	3	87.7	3.52	1.633	11.5	9.7	0.203
<i>Nectandra lanceolata</i> **	24	3	87.7	3.5	1.622	11.5	9.68	0.181
<i>Symplocos uniflora</i>	20	2.5	73.1	4.3	1.994	9.5	9.43	0.222
<i>Eugenia involucrata</i>	24	3	87.7	1.77	0.82	11	7.81	0.197
<i>Amaioua guianensis</i>	27	3.38	98.6	1.21	0.56	10.5	7.49	0.210
<i>Alchornea triplinervea</i>	19	2.38	69.4	1.97	0.914	9	6.84	0.348
<i>Gordonia semiserrata</i>	16	2	58.5	2.38	1.104	7.5	6.46	0.296
<i>Tovomitopsis saldanhae</i> **	20	2.5	73.1	1.18	0.548	9	6.17	0.244
<i>Persea pyrifolia</i>	7	0.88	25.6	3.59	1.664	3.5	5.43	0.197
<i>Cordia sellowiana</i>	14	1.75	51.1	0.92	0.425	5.5	4.19	0.194
<i>Sclerolobium sp</i>	6	0.75	21.9	2.24	1.038	3	3.82	0.368
<i>Psychotria sessilis</i>	13	1.63	47.5	0.46	0.214	5.5	3.61	0.317
<i>Mirsine ferruginea</i>	10	1.25	36.5	1.09	0.507	4.5	3.59	0.250
<i>Cyathea delgadii</i> **	11	1.38	40.2	0.89	0.412	4.5	3.51	0.195
<i>Miconia sellowiana</i>	10	1.25	36.5	0.85	0.394	5	3.48	0.368
<i>Cecropia hololeuca</i> *	4	0.5	14.6	2.3	1.066	2	3.35	0.238
Myrtaceae sp	10	1.25	36.5	0.7	0.325	5	3.34	
<i>Allophylus edulis</i>	9	1.13	32.9	0.95	0.439	4.5	3.32	0.316
<i>Cinnamomum glaziovii</i>	10	1.25	36.5	0.9	0.418	4	3.26	0.189
<i>Ocotea odorifera</i> **	10	1.25	36.5	0.62	0.285	5	3.25	0.205
<i>Lamanonia ternata</i>	9	1.13	32.9	0.69	0.318	4.5	3.06	0.159
<i>Eremanthus erythropapa</i> *	3	0.38	11	2.16	1.004	1.5	2.95	0.278
<i>Ilex thezans</i>	7	0.88	25.6	0.99	0.46	3.5	2.84	0.287
<i>Ocotea cernua</i>	9	1.13	32.9	0.42	0.192	4.5	2.79	0.203
<i>Didimopanax calvus</i>	7	0.88	25.6	0.86	0.397	3.5	2.7	0.277
<i>Myrsine schwaqueana</i>	9	1.13	32.9	0.6	0.279	3	2.56	0.270
<i>Styrax sp</i>	6	0.75	21.9	0.97	0.451	3	2.55	0.189
Indet.2	8	1	29.2	0.57	0.266	3.5	2.54	
<i>Ilex cf taubertiana</i>	7	0.88	25.6	0.75	0.349	3	2.46	0.248
<i>Faramea sp</i>	8	1	29.2	0.32	0.148	4	2.43	0.428
<i>Qualea sp</i>	4	0.5	14.6	1.36	0.631	2	2.42	0.271
<i>Sapium glandulatum</i>	4	0.5	14.6	1.42	0.66	1.5	2.34	0.577

To be continued...

Table 2 - Continuation

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Nectandra rigida</i>	7	0.88	25.6	0.6	0.28	3	2.31	
<i>Endlicheria paniculata**</i>	7	0.88	25.6	0.46	0.215	3.5	2.31	0.289
<i>Tibouchina granulosa*</i>	7	0.88	25.6	0.54	0.252	3	2.25	0.273
<i>Solanum swartzianum</i>	7	0.88	25.6	0.63	0.294	2.5	2.2	0.420
<i>Miconia eichleri</i>	8	1	29.2	0.24	0.112	3	2.07	0.336
<i>Mollinedia triflora</i>	6	0.75	21.9	0.29	0.134	3	1.87	0.224
<i>Sclerolobium rugosum</i>	3	0.38	11	1.02	0.471	1.5	1.81	0.202
<i>Cupania vernalis</i>	5	0.63	18.3	0.34	0.159	2.5	1.66	0.281
<i>Piptocarpha macropoda*</i>	3	0.38	11	0.84	0.39	1.5	1.63	0.305
<i>Miconia discolor</i>	5	0.63	18.3	0.3	0.138	2.5	1.62	
<i>Inga sessilis*</i>	3	0.38	11	0.82	0.381	1.5	1.61	0.340
<i>Aniba firmula</i>	3	0.38	11	0.62	0.289	1.5	1.41	
<i>Guatteria mexiae</i>	4	0.5	14.6	0.27	0.124	2	1.32	0.229
<i>Ilex paraguariensis</i>	3	0.38	11	0.52	0.242	1.5	1.31	0.260
<i>Nectandra oppositifolia**</i>	3	0.38	11	0.52	0.241	1.5	1.31	0.186
<i>Rollinia laurifolia</i>	4	0.5	14.6	0.23	0.108	2	1.29	0.493
<i>Cordia</i> sp	4	0.5	14.6	0.23	0.108	2	1.29	0.202
<i>Maytenus robusta</i>	4	0.5	14.6	0.21	0.096	2	1.26	0.223
<i>Symplocos</i> sp	3	0.38	11	0.43	0.198	1.5	1.22	
<i>Mollinedia ovata</i>	4	0.5	14.6	0.22	0.102	1.5	1.14	0.227
<i>Aloysia virgata*</i>	3	0.38	11	0.32	0.146	1.5	1.11	0.236
<i>Solanum leucodendron</i>	3	0.38	11	0.25	0.117	1.5	1.04	
<i>Vitex megapotamica</i>	3	0.38	11	0.21	0.096	1.5	1	
<i>Vochysia schwaqueana</i>	3	0.38	11	0.19	0.087	1.5	0.98	
<i>Vitex triflora</i>	3	0.38	11	0.17	0.079	1.5	0.96	
<i>Matayba elagnoides</i>	3	0.38	11	0.16	0.073	1.5	0.95	
<i>Cabralea canjerana</i>	3	0.38	11	0.15	0.067	1.5	0.94	
<i>Dyctioloma vandelianum</i>	1	0.13	3.7	0.64	0.296	0.5	0.9	
<i>Eugenia cerasiflora</i>	3	0.38	11	0.1	0.044	1.5	0.89	
<i>Cyathea rufa</i>	3	0.38	11	0.23	0.105	1	0.88	
<i>Matayba</i> sp	3	0.38	11	0.05	0.025	1.5	0.84	
<i>Piper gigantifolium</i>	3	0.38	11	0.15	0.071	1	0.81	
<i>Eugenia cuprea</i>	3	0.38	11	0.09	0.043	1	0.75	
<i>Prunus sellowi</i>	2	0.25	7.3	0.2	0.093	1	0.73	
<i>Sorocea bomplandii</i>	2	0.25	7.3	0.15	0.068	1	0.67	
<i>Carpotroche brasiliensis**</i>	2	0.25	7.3	0.13	0.058	1	0.65	
<i>Pouteria macahensis</i>	2	0.25	7.3	0.1	0.047	1	0.63	
<i>Dalbergia cf brasiliensis</i>	2	0.25	7.3	0.07	0.033	1	0.6	
<i>Pouteria</i> sp	2	0.25	7.3	0.07	0.03	1	0.59	
<i>Picramnia ciliata</i>	2	0.25	7.3	0.06	0.027	1	0.59	
<i>Didimopanax</i> sp	2	0.25	7.3	0.06	0.027	1	0.59	
<i>Euplassa</i> sp	2	0.25	7.3	0.06	0.027	1	0.59	

To be continued...

Table 2 - Continuation

SPECIES	N	RA	AA	RBA	ABA	FR	IV	PF RATIO
<i>Zanthoxylum rhoifolium</i>	1	0.13	3.7	0.25	0.115	0.5	0.51	
<i>Melastomataceae</i>	1	0.13	3.7	0.24	0.111	0.5	0.5	
<i>Nectandra reticulata</i>	1	0.13	3.7	0.23	0.107	0.5	0.49	
<i>Lauraceae</i>	1	0.13	3.7	0.2	0.094	0.5	0.47	
<i>Cedrella fissilis</i>	1	0.13	3.7	0.2	0.092	0.5	0.46	
<i>Clusia arrudea</i>	1	0.13	3.7	0.2	0.091	0.5	0.46	
<i>Hyeronima alchornioides</i>	1	0.13	3.7	0.19	0.086	0.5	0.45	
<i>Leandra lacunosa</i>	1	0.13	3.7	0.17	0.078	0.5	0.43	
<i>Miconia cinamomifolia</i>	1	0.13	3.7	0.13	0.058	0.5	0.39	
<i>Roupala brasiliensis</i>	1	0.13	3.7	0.09	0.043	0.5	0.36	
<i>Rhedia gardneriana</i>	1	0.13	3.7	0.08	0.037	0.5	0.34	
<i>Casearia obliqua</i>	1	0.13	3.7	0.08	0.036	0.5	0.34	
<i>Mollinedia cf argyrogyne</i>	1	0.13	3.7	0.06	0.029	0.5	0.33	
<i>Ocotea dispersa</i>	1	0.13	3.7	0.05	0.021	0.5	0.31	
<i>Coussapoa microcarpa</i>	1	0.13	3.7	0.04	0.019	0.5	0.31	
<i>Cecropia glaziovii</i>	1	0.13	3.7	0.04	0.016	0.5	0.3	
<i>Aspidosperma olivaceum</i>	1	0.13	3.7	0.04	0.016	0.5	0.3	
<i>Casearia decandra</i>	1	0.13	3.7	0.04	0.016	0.5	0.3	
<i>Casearia gossypiosperma</i>	1	0.13	3.7	0.03	0.015	0.5	0.3	
<i>Myrsine umbelata</i>	1	0.13	3.7	0.03	0.012	0.5	0.29	
<i>Swartzia sp</i>	1	0.13	3.7	0.02	0.01	0.5	0.29	
<i>Parapiptadenia sp</i>	1	0.13	3.7	0.02	0.008	0.5	0.28	
<i>Tapirira guianensis</i>	1	0.13	3.7	0.02	0.007	0.5	0.28	
<i>Miconia ibaguensis</i>	1	0.13	3.7	0.01	0.006	0.5	0.28	

## REFERENCES

- Mueller-Dombois, D., Ellenberg, H. 1974. Aims and methods of vegetation ecology. New York, John Wiley and Sons.
- Newton, A. 2007. Forest ecology and conservation: a handbook of techniques. Oxford, Oxford University Press.