



RESEARCH ARTICLE - ANTS

The role of Vegetation Structure and Abiotic Factors Affecting the Temporal Dynamics of Ant Foraging

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Table 1: List of species with respective values of Abundance (Abun), Frequency of occurrence (Freq) and Constancy (Const) collected in each physiognomy evaluated.

SPECIES	PHYTOPHYSIOGNOMY								
	Grassland			Shrub Caatinga			Arboreal Caatinga		
	Abun	Freq (%)	Const (%)	Abun	Freq (%)	Const (%)	Abun	Freq (%)	Const (%)
<i>Azteca</i> sp. (Forel, 1878)	-	-	-	-	-	-	1	0.03	3
<i>Blepharidatta conops</i> (Kempf, 1967)	-	-	-	-	-	-	24	0.9	24.2
<i>Brachymyrmex admotus</i> (Mayr, 1887)	17	0.59	27.2	1	0.1	3	2	0.7	3
<i>Brachymyrmex heeri</i> (Forel, 1874)	-	-	-	-	-	-	2	0.7	6
<i>Camponotus cameranoi</i> (Emery, 1894)	-	-	-	-	-	-	54	2.12	3
<i>Camponotus crassus</i> (Mayr, 1862)	-	-	-	136	12	75	101	3.97	87
<i>Camponotus melanoticus</i> (Emery, 1894)	-	-	-	-	-	-	1	0.03	3

<i>Cephalotes pusillus</i> (Klug, 1824)	-	-	-	2	0.2	3	-	-	-
<i>Crematogaster victima</i> (Smith, 1858)	36	1.26	45.4	54	4.6	24.2	2	0.07	3
<i>Dinoponera quadriceps</i> (Kempf, 1971)	-	-	-	1	0.1	3	-	-	-
<i>Dorymyrmex bicolor</i> (Wheeler, 1906)	66	2.3	42.4	-	-	-	1837	72.3	75.7
<i>Dorymyrmex brunneus</i> (Forel, 1908)	1886	66	69.6	97	8.3	24.2	19	0.74	18
<i>Ectatomma muticum</i> (Mayr, 1870)	5	0.17	9	123	10.5	27.2	5	0.19	6
<i>Forelius brasiliensis</i> (Forel, 1908)	278	10	69	26	2	27.2	5	0.19	9
<i>Forelius maranhaoensis</i> (Cuezzo, 2000)	548	19	72	281	24	33.3	22	0.86	18
<i>Kalathomyrmex emeryi</i> (Forel, 1907)	4	0.14	6	-	-	-	-	-	-
<i>Odontomachus bauri</i> (Emery, 1892)	-	-	-	-	-	-	1	0.03	3
<i>Pheidole diligens</i> (Smith, 1858)	6	0.2	9	6	0.5	18.1	52	2.04	51.5
<i>Pheidole fallax</i> (Mayr, 1870)	-	-	-	-	-	-	3	0.11	3
<i>Pheidole fimbriata</i> (Roger, 1863)	-	-	-	-	-	-	27	1.06	12
<i>Pheidole meinerti</i> (Forel, 1905)	-	-	-	18	1.5	24.2	25	0.98	45.4
<i>Pheidole obscurithorax</i> (Naves, 1985)	-	-	-	-	-	-	5	0.19	6
<i>Pheidole radoszkowskii</i> (Mayr, 1884)	2	0.07	3	73	6.2	30	100	3.93	45.4
<i>Pseudomyrmex urbanus</i> (Smith, 1877)	-	-	-	-	-	-	1	0.03	3
<i>Solenopsis substituta</i> (Santschi, 1925)	-	-	-	332	28	33.3	-	-	-
<i>Solenopsis globularia</i> (Smith, 1858)	7	0.24	3	12	1	21.2	8	0.31	15.1
<i>Solenopsis tridens</i> (Forel, 1911)	-	-	-	12	1	21.2	242	9.53	12
Richness (S)		11			15			23	
Diversity (H')		1.03			2.02			1.28	

Table 2: Value of metrics in the temporal network of foraging rhythm in the three phytophysognomies analyzed. Mean of Null Model (Null mean) and Standardized Effect Size (SES).

	GRASSLAND			SHRUB CAATINGA			ARBOREAL CAATINGA		
	Value metric	Modell null		Value metric	Modell null		Value metric	Modell null	
Nestedness (NODF)	74.3	Null mean	76.99	59.6	Null mean	76.70	60.2	Null mean	72.3
		t-statistic	20.17		t-statistic	146.3		t-statistic	125.85
		p-value	<0.001		p-value	<0.001		p-value	<0.001
Connectance (C)	0.48	Null mean	0.653	0.53	Null mean	0.705	0.37	Null mean	0.502
		t-statistic	288.7		t-statistic	315.5		t-statistic	303.60
		p-value	<0.001		p-value	<0.001		p-value	<0.001
Specialization (H₂^ˆ)	0.38	Null mean	0.012	0.35	Null mean	0.024	0.26	Null mean	0.019
		t-statistic	-5933		t-statistic	-3249.31		t-statistic	-3338.39
		p-value	<0.001		p-value	<0.001		p-value	<0.001
Robustness (R)	0.81	Null mean	0.884	0.74	Null mean	0.865	0.71	Null mean	0.78
		t-statistic	67.37		t-statistic	128.26		t-statistic	52.47
		p-value	<0.001		p-value	<0.001		p-value	<0.001
Niche Overlap	0.49	Sim. Index	0.28	0.30	Sim. Index	0.26	0.29	Sim. Index	0.20
		Effect Size	7.37		Effect Size	1.68		Effect Size	6.15
		p-value	<0.05		p-value	>0.05		p-value	<0.05