

SUPPLEMENTAL INFORMATION

**INTERRELATIONS BETWEEN ENVIRONMENTAL HETEROGENEITY,
COMPETITION, AND PHYLOGENY IN THE STRUCTURE OF A LIZARD
ASSEMBLAGE IN A HYPOXEROPHILIC CAATINGA AREA OF BRAZIL**

JOSÉ LEILTON VILANOVA JÚNIOR, FRANCIS LUIZ SANTOS CALDAS,

RACHEL DOS SANTOS PINTO DE SOUZA, SAMANTHA VIEIRA SILVA,

VITÓRIA GOMES DE MELO SANTOS, AND RENATO GOMES FARIA

The following material is provided by the authors and was not subjected to editing by
Herpetological Conservation and Biology.

Table S1. The sites and substrates used by lizards were recorded in Serra dos Macacos. Tobias Barreto. Sergipe. Brazil. **A** = arboreal forest, **B** = grazed forest, **C** = logged forest; **D** = donations and records made outside the sampling sites; **Shr** = Shrub; **Cac** = Cactaceous; **HC** = Human constructions; **Roc** = Rock; **LL** = Leaf litter; **OG** = Open ground; **Vin** = Vine; **TT** = Tree trunk; **FL** = Fallen log; **n** = number of records per substrate.

Taxon	Abundance per site				Substrate (n)
	A	B	C	D	
Anguidae					
<i>Diploglossus lessonae</i> Peracca. 1890	0	0	1	0	—
Gekkonidae					
<i>Hemidactylus brasilianus</i> (Amaral. 1935)	0	0	1	0	—
<i>Lygodactylus klugei</i> (Smith. Martin & Swain. 1977)	11	11	21	1	HC(1)/ TT(6)
Gymnophthalmidae					
<i>Acratosaura mentalis</i> (Amaral. 1933)	4	0	13	0	—
<i>Micrablepharus maximiliani</i> (Reinhardt & Luetken. 1862)	6	0	2	0	—
Leiosauridae					
<i>Enyalius bibronii</i> Boulenger. 1885	9	0	1	0	—
Mabuyidae					
<i>Brasiliscincus heathi</i> (Schmidt & Inger. 1951)	7	1	3	2	OG(1)/ TT(1)/ FL(1)

Phyllodactylidae					
<i>Gymnodactylus geckoides</i> Spix. 1825	2	32	10	1	OG(3)/FL(1) Shr(1)/Cac(1)/
<i>Phyllopezus pollicaris</i> (Spix. 1825)	6	2	11	0	Roc(6)/OG(2)/ TT(2)/Vin(2)
Polychrotidae					
<i>Polychrus acutirostris</i> Spix. 1825	0	0	0	1	TT(1)
Sphaerodactylidae					
<i>Coleodactylus meridionalis</i> (Boulenger. 1888)	0	0	2	0	–
Teiidae					
<i>Ameiva ameiva</i> (Linnaeus. 1758)	9	4	7	0	LL(3)/OG(4) Roc(1)/LL(2)/
<i>Ameivula ocellifera</i> (Spix. 1825)	0	19	46	7	OG(30)
<i>Salvator merianae</i> Duméril & Bibron. 1839	1	0	3	0	OG(2)
Tropiduridae					
					Roc(38)/LL(5)/
<i>Tropidurus hispidus</i> (Spix. 1825)	31	21	42	13	OG(23)/ FL(5)/TT(11) Roc(93)/OG(2)/
<i>Tropidurus semitaeniatus</i> (Spix. 1825)	21	10	92	4	FL(3)/TT(2)

Table S2. Diet summary of lizards from Serra dos Macacos. Tobias Barreto. Sergipe. Brazil. **F** = frequency. **F%** = relative frequency. **N** = abundance. **N%** = relative abundance. **V** = volume. **V%** = relative volume.

Categories	<i>Acratosaura mentalis</i> (n = 17)					
	F	F%	N	N%	V	V%
Araneae	3	17.65	3	9.68	2.67	0.38
Hymenoptera	2	11.76	13	41.94	137.76	19.46
Insect larvae	1	5.88	1	3.23	81.40	11.50
Orthoptera	6	35.29	14	45.16	486.05	68.66
Total			31	100	707.88	100
Categories	<i>Ameiva ameiva</i> (n = 13)					
	F	F%	N	N%	V	V%
Acari	1	7.69	3	2.63	-	-
Araneae	3	23.08	7	6.14	249.53	3.84
Blattodea	4	30.77	7	6.14	-	-
Coleoptera	8	61.54	30	26.32	2357.68	36.27
Diplopoda	1	7.69	1	0.88	-	-
Diptera	1	7.69	3	2.63	-	-
Formicidae	5	38.46	16	14.04	6.07	0.09
Hemiptera	1	7.69	1	0.88	-	-
Hymenoptera	2	15.38	3	2.63	-	-
Isoptera	4	30.77	27	23.68	-	-
Insect larvae	3	23.08	7	6.14	654.22	10.06
Plant Material	3	23.08	0	0.00	-	-
Orthoptera	6	46.15	7	6.14	732.01	11.26

Scorpiones	2	15.38	2	1.75	2501.38	38.48
Total			114	100	6500.89	100

***Ameivula ocellifera* (n = 38)**

Categories						
	F	F%	N	N%	V	V%
Acari	1	2.63	1	0.23	-	-
Araneae	13	34.21	22	5.06	239.84	29.76
Blattodea	4	10.53	5	1.15	-	-
Chilopoda	2	5.26	2	0.46	-	-
Coleoptera	14	36.84	17	3.91	44.07	5.47
Formicidae	14	36.84	92	21.15	-	-
Hemiptera	3	7.89	3	0.69	-	-
Hymenoptera	10	26.32	16	3.68	62.32	7.73
Isoptera	19	50.00	258	59.31	124.67	15.47
Insect larvae	7	18.42	12	2.76	106.35	13.20
Lepidoptera	1	2.63	1	0.23	-	-
Plant Material	2	5.26	0	0.00	-	-
Orthoptera	3	7.89	3	0.69	89.43	11.10
Scorpiones	3	7.89	3	0.69	139.12	17.26
Total			435	100	805.7902	100

***Brasiliscincus heathi* (n = 10)**

Categories						
	F	F%	N	N%	V	V%
Araneae	2	20.00	3	1.32	2.60	0.52
Coleoptera	6	60.00	7	3.08	38.08	7.67
Diptera	1	10.00	1	0.44	-	-
Formicidae	2	20.00	2	0.88	-	-

Hemiptera	2	20.00	2	0.88	-	-
Hymenoptera	3	30.00	4	1.76	13.26	2.67
Isoptera	8	80.00	203	89.43	376.96	75.98
Insect larvae	3	30.00	5	2.20	65.26	13.15
Total			227	100	496.15	100

***Coleodactylus meridionalis* (n = 2)**

Categories						
	F	F%	N	N%	V	V%
Blattodea	1	50.00	1	33.33	2.35	51.62
Diptera	2	100.00	2	66.67	2.20	48.38
Total			3	100	4.55	100

***Diploglossus lessonae* (n = 1)**

Categories						
	F	F%	N	N%	V	V%
Coleoptera	1	100.00	1	50.00	-	-
Scorpiones	1	100.00	1	50.00	131.35	100.00
Total			2	100	131.35	100

***Enyalius bibronii* (n = 8)**

Categories						
	F	F%	N	N%	V	V%
Araneae	3	37.50	3	2.26	112.94	4.64
Blattodea	1	12.50	1	0.75	-	-
Coleoptera	6	75.00	8	6.02	365.16	15.00
Diptera	1	12.50	1	0.75	-	-
Formicidae	4	50.00	14	10.53	10.70	0.44
Hemiptera	1	12.50	1	0.75	-	-
Isoptera	4	50.00	96	72.18	499.04	20.49
Insect larvae	2	25.00	2	1.50	321.26	13.19

Lepidoptera	1	12.50	1	0.75	122.73	5.04
Orthoptera	3	37.50	3	2.26	157.99	6.49
Phasmatodea	1	12.50	2	1.50	727.15	29.86
Scorpiones	1	12.50	1	0.75	118.23	4.85
Total			133	100	2435.19	100

***Gymnodactylus geckoides* (n = 37)**

Categories						
	F	F%	N	N%	V	V%
Acari	1	2.70	1	0.26	0.05	0.01
Araneae	6	16.22	7	1.83	9.14	1.09
Blattodea	1	2.70	1	0.26	113.44	13.48
Chilopoda	1	2.70	1	0.26	93.29	11.08
Coleoptera	3	8.11	3	0.79	7.64	0.91
Diptera	2	5.41	2	0.52	-	-
Formicidae		35.14	50	13.09	112.68	13.39
Hymenoptera	2	5.41	3	0.79	0.32	0.04
Isoptera	23	62.16	296	77.49	295.48	35.10
Insect larvae	7	18.92	9	2.36	146.54	17.41
Plant Material	6	16.22	0	0.00	-	-
Opiliones	1	2.70	2	0.52	-	-
Orthoptera	5	13.51	5	1.31	62.39	7.41
Pseudoscorpionida	1	2.70	2	0.52	0.88	0.10
Total			382	100	841.86	100

***Hemidactylus brasiliensis* (n = 1)**

Categories						
	F	F%	N	N%	V	V%
Araneae	1	100.00	2	100.00	-	-

Total	2	100	0	0
-------	---	-----	---	---

***Lygodactylus klugei* (n = 38)**

Categories	F	F%	N	N%	V	V%
Acari	2	5.71	18	16.98	3.35	0.58
Araneae	6	17.14	6	5.66	0.65	0.11
Blattodea	1	2.86	3	2.83	27.78	4.81
Coleoptera	15	42.86	26	24.53	50.65	8.76
Diptera	2	5.71	2	1.89	-	-
Hemiptera	2	5.71	2	1.89	6.43	1.11
Hymenoptera	12	34.29	17	16.04	3.37	0.58
Isoptera	7	20.00	10	9.43	26.61	4.60
Insect larvae	10	28.57	20	18.87	458.72	79.36
Plant Material	2	5.71	0	0.00	-	-
Pseudoscorpionida	2	5.71	2	1.89	0.47	0.08
Total			106	100	578.03	100

***Micrablepharus maximiliani* (n = 7)**

Categories	F	F%	N	N%	V	V%
Araneae	1	14.29	1	33.33	-	-
Hymenoptera	1	14.29	1	33.33	-	-
Plant Material	1	14.29	0	0.00	-	-
Orthoptera	1	14.29	1	33.33	-	-
Total			3	100	-	0

***Phyllopezus pollicaris* (n = 10)**

Categories	F	F%	N	N%	V	V%
Araneae	2	20.00	2	8.00	4.95	1.49

Blattodea	1	10.00	1	4.00	-	-
Coleoptera	2	20.00	4	16.00	190.57	57.45
Formicidae	2	20.00	6	24.00	1.78	0.54
Hemiptera	2	20.00	2	8.00	-	-
Hymenoptera	1	10.00	3	12.00	-	-
Isoptera	1	10.00	2	8.00	-	-
Insect larvae	1	10.00	2	8.00	134.44	40.52
Plant Material	2	20.00	0	0.00	-	-
Orthoptera	2	20.00	3	12.00	-	-
Total			25	100	331.74	100

***Polychrus acutirostris* (n = 1)**

Categories	F	F%	N	N%	V	V%
Blattodea	1	100.00	1	3.85	-	-
Coleoptera	1	100.00	21	80.77	1026.32	100.00
Plant Material	1	100.00	0	0.00	-	-
Orthoptera	1	100.00	3	11.54	-	-
Phasmatodea	1	100.00	1	3.85	-	-
Total			26	100	1026.32	100

***Salvator merianae* (n = 2)**

Categories	F	F%	N	N%	V	V%
Acari	1	50.00	13	46.43	-	-
Ave	1	50.00	1	3.57	-	-
Coleoptera	1	50.00	1	3.57	-	-
Formicidae	2	100.00	5	17.86	-	-
Isoptera	1	50.00	2	7.14	-	-

Lacertilia	1	50.00	1	3.57	3922.10	100.00
Insect larvae	2	100.00	4	14.29	-	-
Plant Material	1	50.00	0	0.00	-	-
Orthoptera	1	50.00	1	3.57	-	-
Total			28	100	3922.10	100

Tropidurus hispidus (n = 33)

Categories						
	F	F%	N	N%	V	V%
Acari	3	9.09	3	0.14	-	-
Araneae	9	27.27	11	0.51	43.46	0.41
Blattodea	5	15.15	5	0.23	141.84	1.33
Chilopoda	2	6.06	2	0.09	10.52	0.10
Coleoptera	28	84.85	85	3.94	3336.80	31.17
Diplopoda	3	9.09	3	0.14	39.04	0.36
Diptera	3	9.09	5	0.23	-	-
Formicidae	29	87.88	682	31.63	669.35	6.25
Gastropoda	1	3.03	1	0.05	24.91	0.23
Hemiptera	6	18.18	10	0.46	226.05	2.11
Hymenoptera	18	54.55	47	2.18	145.42	1.36
Isoptera	18	54.55	1242	57.61	2094.12	19.56
Insect larvae	17	51.52	41	1.90	3222.70	30.10
Lepidoptera	3	9.09	3	0.14	15.61	0.15
Plant Material	9	27.27	0	0.00	-	-
Orthoptera	10	30.30	15	0.70	735.18	6.87
Phasmatodea	1	3.03	1	0.05	-	-
Total			2156	100	10705.00	100

Categories	<i>Tropidurus semitaeniatus</i> (n = 35)					
	F	F%	N	N%	V	V%
Acari	1	2.86	1	0.19	1.17	0.04
Araneae	5	14.29	7	1.30	8.49	0.26
Blattodea	1	2.86	1	0.19	-	-
Coleoptera	18	51.43	66	12.29	1317.43	40.16
Diptera	5	14.29	8	1.49	109.62	3.34
Formicidae	26	74.29	263	48.98	236.46	7.21
Hemiptera	3	8.57	3	0.56	-	-
Hymenoptera	16	45.71	45	8.38	261.62	7.97
Isoptera	10	28.57	114	21.23	210.89	6.43
Lacertilia	1	2.86	1	0.19	-	-
Insect larvae	10	28.57	19	3.54	959.75	29.25
Plant Material	5	14.29	0	0.00	-	-
Orthoptera	4	11.43	4	0.74	171.90	5.24
Scorpiones	3	8.57	5	0.93	3.52	0.11
Total			537	100	3280.83	100