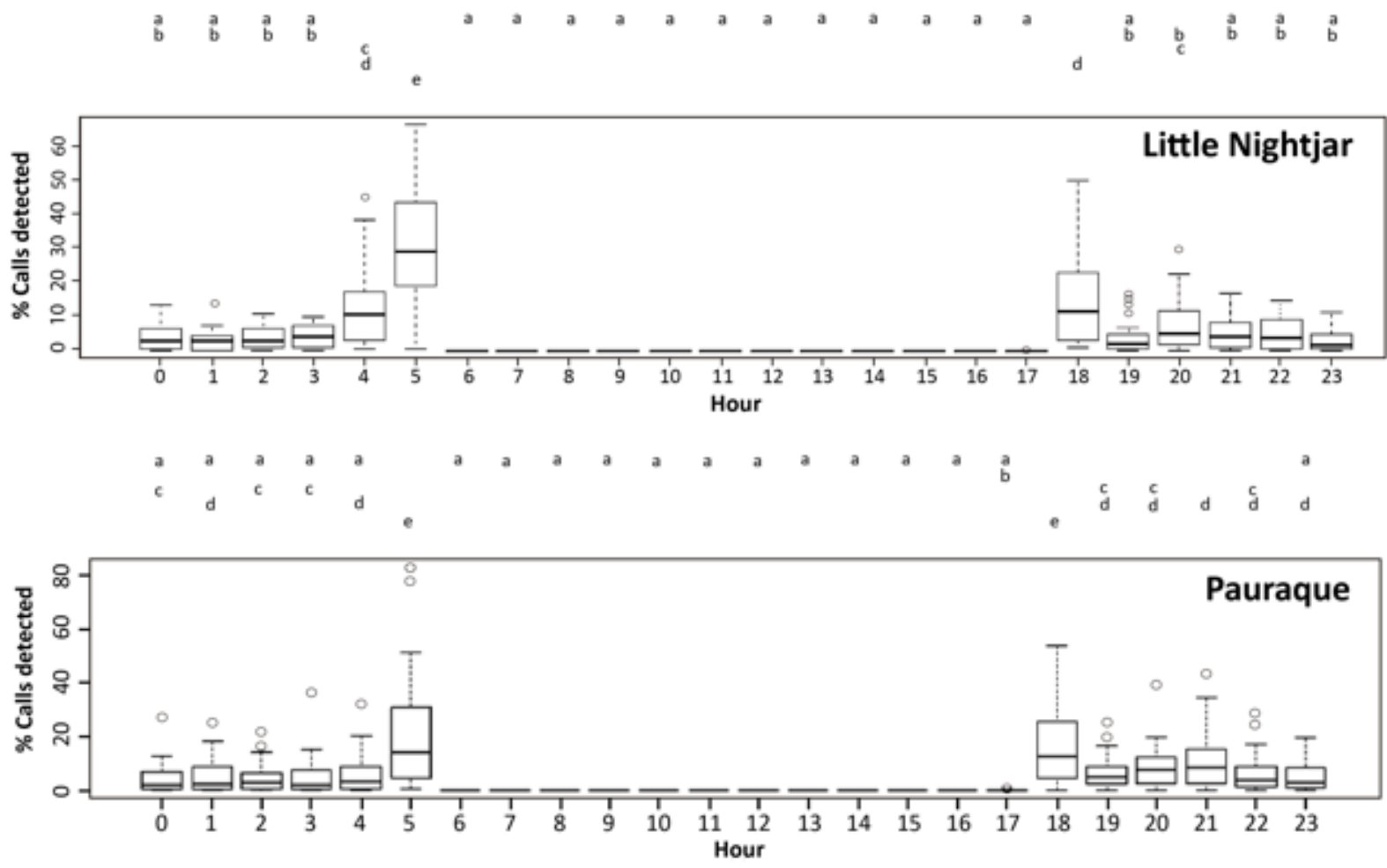


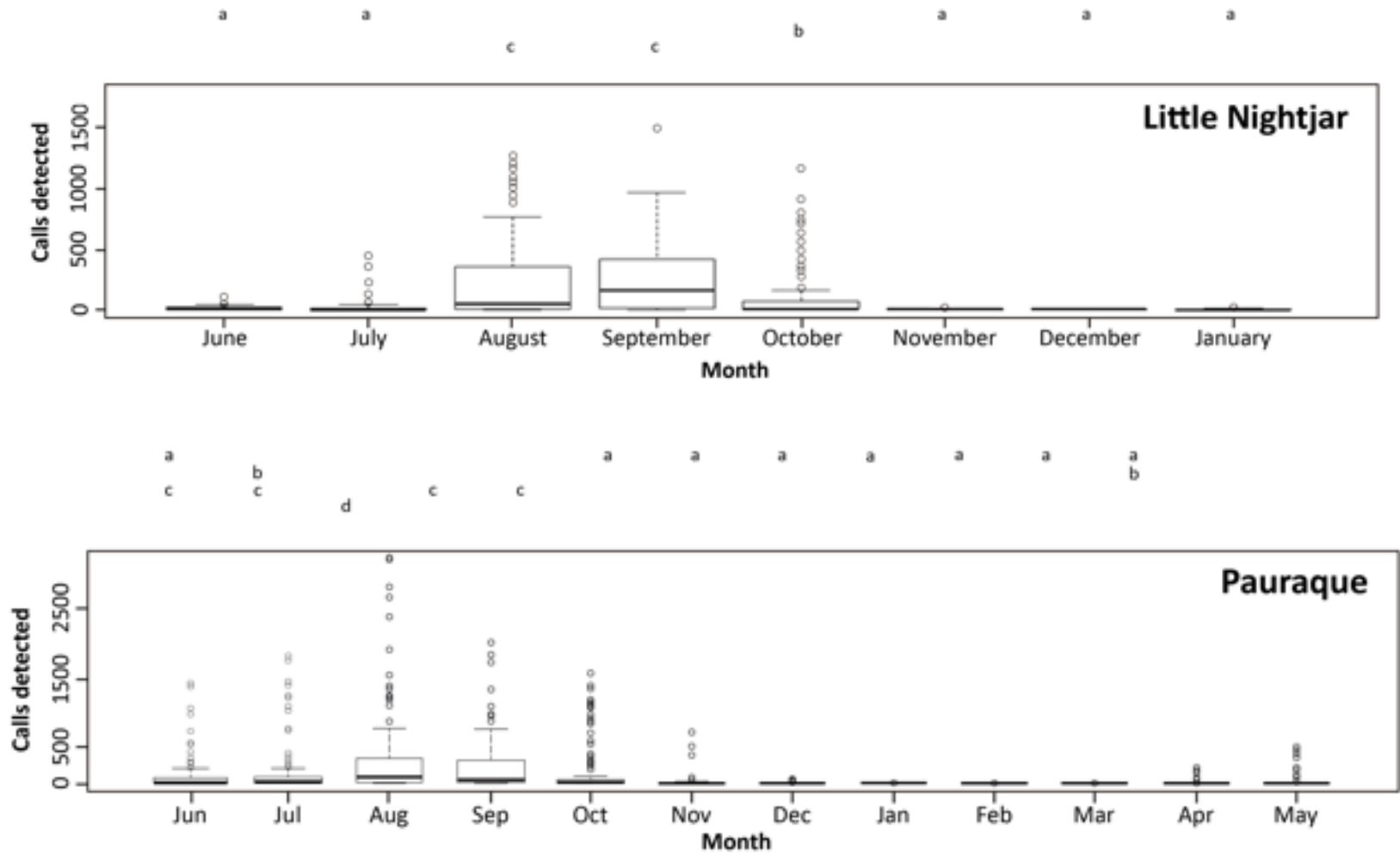
Supplemental Figure S1. Locations of the four acoustic monitoring stations in the Pantanal Matogrossense (Poconé municipality, Mato Grosso, Brazil). The inset shows the location of the study area (star) in Brazil. The Cuiabá River is shown in the lower-right corner of the image. The image was extracted from Google Earth on 31 March 2016. Scale bar: 2 km.



Supplemental Figure S2. Plot showing the results of Tukey’s post hoc test for the factor Hour. Different letters mean significant differences in the calling activity (% of calls detected) of the (A, top) Little Nightjar and the (B, bottom) Pauraque between hours following Tukey’s test.



Supplemental Figure S3. Plot showing the results of Tukey’s post hoc test for the factor Month. Different letters mean significant differences in the daily calling activity (number of calls) of the (A, top) Little Nightjar and the (B, bottom) Pauraque between months following Tukey’s test.



Supplemental Table S1. Mean \pm SD (and range) of the acoustic parameters of the call of the Little Nightjar and the Pauraque in the Pantanal Matogrossense (Brazil). A total of 50 and 58 calls of the Little Nightjar and the Pauraque, respectively, from eight different recordings were measured. Recordings were collected using a Song Meter SM2 recorder, and call measurements were made using Raven Pro 1.5.

Species	Duration (s)	Minimum Frequency (Hz)	Maximum Frequency (Hz)	Dominant Frequency (Hz)
Little Nightjar	1.34 \pm 0.22 (0.93 – 1.65)	777.7 \pm 137.6 (601.0 – 1238.1)	3016.0 \pm 211.0 (2737.6 – 3598.3)	2235.5 \pm 243.5 (1550 – 2670)
Pauraque	0.46 \pm 0.11 (0.26 – 0.66)	790.8 \pm 172.1 (566.1 – 1217.7)	2516.3 \pm 173.3 (2240.3 – 2717.3)	2156.8 \pm 188.2 (1687.5 – 2437.5)

Supplemental Table S2. Number of Little Nightjar calls detected per hour at four monitoring stations in the Pantanal Matogrossense (Brazil). The total number and percentage of calls detected per month, with respect to the total number of calls, are also shown. Calling activity was monitored by acoustic monitoring from 8 June 2015 to 31 May 2016 at four acoustic recording stations, but the species was not detected at Station A.

Hour	Station B	Station C	Station D	Total	%
0	644	3,190	1,078	4,912	7.6
1	841	2,088	1,388	4,317	6.7
2	918	2,573	1,068	4,559	7.1
3	831	2,623	1,555	5,009	7.8
4	1,316	3,598	1,867	6,781	10.5
5	4,863	4,148	4,822	13,833	21.5
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0
17	1	0	1	2	0.0
18	561	1,146	1,157	2,864	4.4
19	262	904	788	1,954	3.0
20	1,278	1,942	1,650	4,870	7.6
21	390	2,689	2,175	5,254	8.2
22	1,383	2,931	1,262	5,576	8.7
23	675	2,866	895	4,436	6.9

Supplemental Table S3. Number of Pauraque calls detected per hour at four monitoring stations in the Pantanal Matogrossense (Brazil). The total number and percentage of calls detected per month, with respect to the total number of calls, are also shown. Calling activity was monitored by acoustic monitoring from 8 June 2015 to 31 May 2016 at four acoustic recording stations.

Hour	Station A	Station B	Station C	Station D	Total	%
0	202	332	1,811	7,919	10,264	7.7
1	319	352	1,716	5,980	8,367	6.2
2	78	429	2,135	8,154	10,796	8.1
3	23	247	984	7,584	8,838	6.6
4	62	336	1,134	6,940	8,472	6.3
5	390	635	1,328	8,089	10,442	7.8
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	53	43	26	104	226	0.2
18	553	943	268	13,023	14,787	11.0
19	66	216	550	5,988	6,820	5.1
20	141	591	2,094	10,945	13,771	10.3
21	529	953	2,181	12,524	16,187	12.1
22	227	416	1,974	9,522	12,139	9.1
23	12	774	2,897	9,147	12,830	9.6

Supplemental Table S4. Number of Little Nightjar calls detected per month and station in the Pantanal Matogrossense (Brazil). The monthly percentage of calls detected per month, with respect to the total number of calls, is also shown. Calling activity was monitored by acoustic monitoring from 8 June 2015 to 31 May 2016 at four acoustic monitoring stations, but the species was not detected at Station A.

Month	Station B	Station C	Station D	Total	%
June 2015	40	108	942	1090	1.7
July 2015	1,550	121	628	2,299	3.6
August 2015	7,111	10,359	7,560	25,030	39.0
September 2015	4,552	10,062	9,631	24,245	37.7
October 2015	171	9,762	576	10,509	16.4
November 2015	214	111	116	441	0.7
December 2015	191	84	85	360	0.6
January 2016	134	91	34	259	0.4
February 2016	0	0	0	0	0
March 2016	0	0	0	0	0
April 2016	0	0	0	0	0
May 2016	0	0	0	0	0
TOTAL	13,963	30,698	19,572	64,233	100

Supplemental Table S5. Number of Pauraque calls detected per month and station in the Pantanal Matogrossense (Brazil). The monthly percentage of calls detected per month, with respect to the total number of calls, is also shown. Calling activity was monitored by acoustic monitoring from 8 June 2015 to 31 May 2016 at four acoustic monitoring stations.

Month	Station A	Station B	Station C	Station D	Total	%
June 2015	14	169	1343	9,673	11,199	8.4
July 2015	181	662	691	16,280	17,814	13.3
August 2015	1,587	1,884	10,727	31,270	45,468	33.9
September 2015	458	3,342	4,415	20,981	29,196	21.8
October 2015	415	123	485	20,475	21,498	16.1
November 2015	0	39	88	2,375	2,502	1.9
December 2015	0	35	27	815	877	0.7
January 2016	0	13	29	377	419	0.3
February 2016	0	0	35	81	116	0.1
March 2016	0	0	127	149	276	0.2
April 2016	0	0	564	431	995	0.7
May 2016	0	0	567	3,012	3,579	2.7
TOTAL	2,655	6,267	19,098	105,919	133,939	100

Supplemental Table S6. Mean coefficients of variation of the calling activity of the Little Nightjar and the Pauraque obtained by using acoustic monitoring during the last fortnight of August in the Pantanal Matogrossense (Brazil). Calling activity was monitored by acoustic monitoring at three (Little Nightjar) and four (Pauraque) acoustic recording stations.

Number of monitoring days	Little Nightjar	Common Pauraque
1	82.53	92.88
2	54.59	61.43
3	42.67	48.01
4	35.35	39.78
5	30.14	33.92
6	26.10	29.37
7	22.78	25.64
8	19.94	22.43
9	17.40	19.58
10	15.07	16.96
11	12.85	14.47
12	10.67	12.00
13	8.40	9.45
14	5.90	6.63