

**Appendix 1.** Advertisement calls of *Pseudis*. Values are presented as mean±standard deviation (range).

Species	Locality	Dominant Frequency (Hz)	Duration (s)	Number of pulses	Pulse rate (pulse/call)	Reference
<i>P. bolbodactyla</i> (n=10)	Piracanjuba/GO/Brazil	1936 ± 38 (1828 – 2305)	0.183 ± 0.08	6.6 ± 0.9	-	(Vaz-Silva et al., 2007)
<i>P. bolbodactyla</i> (n=39)*	Lagoa Grande/MG/Brazil	2310 ± 94 (2239 – 2584)	0.135 ± 0.02 (0.086 – 0.195)	8.7 ± 0.8 (7 – 11)	66.1 ± 11.1 (54.3 – 114.3)	Present work
<i>P. bolbodactyla</i> (n=16)*	Flores de Goiás/GO/Brazil	2411	0.196 ± 0.04 (0.16 – 0.318)	7.3 ± 1.0 (6 – 11)	38 ± 4 (30.4 – 44.6)	Present work
<i>P. bolbodactyla</i> (n=16)*	Iaciara/GO/Brazil	2143 ± 88 (2067 – 2240)	0.138 ± 0.01 (0.100 – 0.150)	7.4 ± 0.8 (6 – 8)	53.9 ± 3.4 (46.7 – 60)	Present work
<i>P. bolbodactyla</i> (n=5)*	Alvorada do Norte/GO	2171 ± 94 (2067 – 2240)	0.155 ± 0.01 (0.136 – 0.176)	7 ± 1 (6 – 8)	45 ± 4.3 (38.2 – 49.6)	Present work
<i>P. bolbodactyla</i> (n=17) ^a	Pirenópolis/GO/Brazil	1665 ± 161 (1500 – 1875)	0.159 ± 0.02 (0.115 – 0.183)	6.6 ± 0.8 (5 – 8)	41.6 ± 3.2 (38.5 – 48.6)	Present work
<i>P. bolbodactyla</i> (n=5) ^b	Limeira do Oeste/MG/Brazil	2437	0.218 ± 0.03 (0.18 – 0.252)	7.2 ± 0.8 (6 – 8)	33.1 ± 2.1 (30.6 – 36.6)	Present work
<i>P. bolbodactyla</i> (n=12)*	Itumbiara/GO/Brazil	2383 ± 67.0 (2230 – 2411)	0.122 ± 0.02 (0.093 – 0.157)	6.1 ± 1.3 (5 – 8)	49.8 ± 6.1 (40 – 61.2)	Present work
<i>P. bolbodactyla</i> PR (n=7) ⁱ	Cumari/GO/Brazil	1969 ± 168 (1723 – 2067)	0.158 ± 0.03 (0.093 – 0.196)	9.8 ± 1.3 (7 – 11)	63.5 ± 7.3 (55.6 – 75.3)	Present work
<i>P. bolbodactyla</i> (n=23) ^c	Palmeiras/GO/Brazil	2180 ± 108 (2067 – 2412)	0.199 ± 0.02 (0.127 – 0.222)	10.2 ± 1.3 (9 – 14)	51.6 ± 6.9 (40.9 – 70.9)	Present work
<i>P. bolbodactyla</i> (n=9) ^c	Mineiros/GO/Brazil	1914 ± 72 (1808 – 2067)	0.160 ± 0.01 (0.131 – 0.186)	8.8 ± 1.2 (6 – 10)	55.4 ± 5.8 (45.8 – 61.6)	Present work
<i>P. bolbodactyla</i> (n=5) ^c	Silvânia/GO/Brazil	2084 ± 72 (1981 – 2153)	0.146 ± 0.03 (0.111 – 0.185)	7.6 ± 1.7 (6 – 10)	52.4 ± 8.6 (41.1 – 64.5)	Present work
<i>P. cardosoi</i> (n=6)	São Francisco de Paula/RS/ Brazil	1700 – 2300	0.18 – 0.30	11 – 22	-	(Kwet, 2000)
<i>P. cardosoi</i> (n=3)	São Francisco de Paula/RS/ Brazil	1500 – 2300	0.25 – 0.45	13 – 20	-	(Kwet, 2000)
<i>P. cardosoi</i> (n=13) ^d	São Francisco de Paula/RS/ Brazil	2080 ± 48 (2067 – 2240)	0.193 ± 0.01 (0.166 – 0.223)	15.5 ± 2 (13 – 19)	80.1 ± 5.1 (71.4 – 92.7)	Present work
<i>P. cardosoi</i> (n=7)*	São Joaquim/SC/Brazil	1714 ± 70.9 (1687 – 1875)	0.16 ± 0.02 (0.127 – 0.202)	13 ± 2.1 (10 – 16)	78.9 ± 7.3 (76.9 – 82.1)	Present work
<i>P. fusca</i> (n=10)*	Araçuaí/MG/Brazil	2222.27 ± 54.49 (2067.2 – 2239.5)	0.210 ± 0.03 (0.150 – 0.244)	14.5 ± 2.07 (10 – 16)	67.9 ± 5.4 (55.8 – 72.4)	Present work
<i>P. fusca</i> (n=10)*	Araçuaí/MG/Brazil	2532.31 ± 83.23 (2239.5 – 2584)	0.171 ± 0.32 (0.104 – 0.200)	10.1 ± 2.56 (6 – 13)	58.61 ± 7.16 (48.78 – 68.78)	Present work
<i>P. fusca</i> (n=10)*	Araçuaí/MG/Brazil	2446.2 ± 108.9 2067.2 – 2584	0.169 ± 0.032 (0.106 – 1.198)	10.5 ± 2.63 (5 – 13)	61.54 ± 6.89 (47.16 – 70.58)	Present work
<i>P. minuta</i> (n=6)	Caçapava do Sul/RS/Brazil	2500 – 2700	0.08 – 0.10	10 – 13	-	(Kwet, 2000)

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Appendix 1. Continued.

Species	Locality	Dominant Frequency (Hz)	Duration (s)	Number of pulses	Pulse rate (pulse/call)	Reference
<i>P. minuta</i> (n=5)	Rio Grande/RS/Brazil	1900 – 2600	0.11 – 0.13	12 – 14	-	(Kwet, 2000)
<i>P. minuta</i> (n=5)	Isla Talabera/Argentina	2600 – 3100	0.10 – 0.15	10 – 16	-	(Kwet, 2000)
<i>P. minuta</i>	Santa Fé/Argentina	1200 - 3000	0.2	-	-	(Barrio, 1970)
<i>P. minuta</i> (n=8)	Porto Alegre/RS/Brazil	2690 ± 22 (2280 – 3250)	0.10 ± 0.02 (0.07–0.15)	10.67 ± 1.54 (7–14)	-	(Zank et al., 2008)
<i>P. minuta</i> (n=36) ^D	Taim/RS/Brazil	2263 ± 131 (2067 – 2584)	0.141 ± 0.01 (0.113 – 0.167)	13.4 ± 1.6 (11 – 16)	94.6 ± 3.5 (90.2 – 102.6)	Present work
<i>P. minuta</i> (n=17) ^{D, E}	Rivera/Uruguai	3070 ± 267 (2411 – 3445)	0.107 ± 0.01 (0.076 – 0.133)	11.6 ± 1.3 (9 – 14)	108.9 ± 73.1 (90.9 – 128.2)	Present work
<i>P. paradoxa</i> (as <i>P. platensis</i>)	Santa Fé/Argentina	2200	0.3	9 – 10	-	(Barrio, 1970)
<i>P. paradoxa</i>	Departamento de Santa Cruz/Bolivia	2711	0.30	8 – 11	-	(Bosch et al., 1996)
<i>P. paradoxa</i> (n=8) [*]	Porto Velho/RO/Brazil	2476 ± 89 (2412 – 2584)	0.201 ± 0.03 (0.162 – 0.243)	10.9 ± 2.0 (9 – 14)	54.4 ± 7.2 (45.2 – 67.9)	Present work
<i>P. paradoxa</i> (n=13) ^B	Bela Vista/MS/Brazil	2524 ± 97 (2438 – 2625)	0.212 ± 0.01 (0.186 – 0.243)	17.2 ± 0.8 (16 – 18)	81.3 ± 4.6 (74.1 – 89.9)	Present work
<i>P. paradoxa</i> [*]	Pinheiro/MA/Brazil	1727.7	0.196 ± 0.045 0.144 – 0.281	11.6 ± 2.8 8 – 16	59.2 ± 8.5 40.8 – 68.4	Present Work
<i>P. paradoxa</i> (n=7) ^A	Jaguariúna/SP/Brazil	2196 ± 142 (2063 – 2438)	0.153 ± 0.06 (0.071 – 0.182)	10 ± 1.7 (9 – 13)	81.2 ± 52.9 (49.4 – 183.1)	Present work
<i>P. paradoxa</i> (n=19) ^A	Luis Antônio/SP/Brazil	2220 ± 4.4 (2063 – 2438)	0.241 ± 5.6 (0.202 – 0.303)	10.6 ± 0.02 (9 – 12)	44 ± 0.01 (36.7 – 49.5)	Present work
<i>P. paradoxa</i> (n=30) ^F	Poconé/MT/Brazil	2217 ± 185 (1723 – 2412)	0.289 ± 0.03 (0.232 – 0.328)	12.6 ± 1.0 (10 – 15)	44.3 ± 5.5 (34.1 – 54.6)	Present work
<i>P. paradoxa</i> (n=21) ^G	Corumbá/MT/Brazil	2141 ± 140 (2067 – 2412)	0.239 ± 0.01 (0.215 – 0.272)	11.3 ± 1.2 (10 – 14)	47.2 ± 3.2 (41.1 – 52.6)	Present work
<i>P. paradoxa</i> (n=10) ^H	Sucre/Venezuela	2250	0.300 ± 0.03 (0.254 – 0.345)	17.6 ± 0.7 (16 – 18)	59.2 ± 6.1 (50.3 – 67.9)	Present work
<i>P. paradoxa</i> (n=8) ^A	Apure/Mantecal/Venezuela	2571.4 ± 141.7 (2437.5 – 2812.5)	0.208 ± 0.02 (0.179 – 0.233)	12.6 ± 1.7 (9 – 14)	60.4 ± 5.6 (50.3 – 67)	Present work
<i>P. tocantins</i> (n=13) [*]	Aruanã/GO/Brazil	2337 ± 237 (2063 – 2625)	0.242 ± 0.02 (0.202 – 0.271)	24.6 ± 1.7 (23 – 28)	101.4 ± 65.3 (85.3 – 120.7)	Present work
<i>P. tocantins</i> (n=10) [*]	Filadélfia/TO/Brazil	2343.8 ± 253.9 (2062.5 – 2625.0)	0.219 ± 0.032 (0.165 – 0.270)	21 ± 4.7 12 – 28	95.9 ± 16.5 57.4 – 113.4	Present work

Recordings from the present work (in parenthesis are the recordings labels): ^AAdão Cardoso (0010981-AJC 105/04, 0010992-AJC 126/06); ^BThiago Carvalho (Pseudis_paradoxaMS1aTRCmt, Pseudis_paradoxaMS1bTRCmt, Pseudis_paradoxaMS1cTRCmt, Pseudis_paradoxaMS2TRCmt, Pseudis_paradoxaMS3TRCmt, Pseudis_bolbodactylaLimDoOesteMG1aLBM_AAGmt, Pseudis_bolbodactylaLimDoOesteMG1bLBM_AAGmt, Pseudis_bolbodactylaLimDoOesteMG2LBM_AAGmt); ^CRogério Bastos (LPL1IND1, LPL4IND1, LPL4IND2, LPL8IND1, LPL10IN1, LPL10IN2, RPB9IND1); ^DAxel Kwet (kwet_7B02_pseudis_minutus_taim-a, Pseudis_minutus_kwet_13A2_Rivera, Pseudis_minutus_kwet_17B8_Uruguay, pseudis-cardosoi-kwet-1, pseudis-cardosoi-kwet-2, pseudis-cardosoi-kwet-3), ^ERaúl, Maneyro (1052 Pseudis, 1053 Pseudis, 1055 Pseudis, 1056 Pseudis); ^FCélio Haddad (CFBH 14/9); ^GCynthia Prado; ^HWilliam Duellman (8083_Sucre_venezuela, 8084_Sucre_venezuela2, 8085_Sucre_venezuela3); ^IAriovaldo Giaretta (PseudisbolbgoAAGdGiaretta); *recorded by the authors.

Appendix 2. Material examined (Tadpole lots)

Pseudis bolbodactyla. **Brazil, Goiás:** Flores de Goiás: DS 192. CHUNB 52351.

Pseudis cardosoi. **Brazil, Rio Grande do Sul:** Bom Jesus: AAGARDA 3453, AAGARDA 3457, AAGARDA 6302; Cambará do Sul: AAGARDA 3461, AAGARDA 3464; Jaquirana: AAGARDA 3463, AAGARDA 3467; **Santa Catarina:** Bom Jardim da Serra: AAGARDA 3465-3466; Lages: AAGARDA 3455, São Joaquim: AAGARDA 3454.

Pseudis fusca. **Brazil, Minas Gerais:** Araguari: CHUNB 43491.

Pseudis minuta. **Brazil, Rio Grande do Sul:** São Sepé: AAGARDA 3460; Sapucaia do Sul: MZUSP 80057, MZUSP 80071.

Pseudis paradoxa. **Brazil, Mato Grosso do Sul:** Batayporã: MZUSP 69694; **Minas Gerais:** Fronteira: MZUSP 23846;

Roraima: Boa vista: CHUNB 43499; **São Paulo:** Ribeirão Preto: MZUSP 71150. CHUNB 38877.

Pseudis tocantins. **Brazil, Goiás:** Britânia: CHUNB 43501.