

**Supplementary material for
 Measurement of roost entrance activity of Pilbara leaf-nosed bats (*Rhinonictoris aurantia*) using
 passive integrated transponder tags**

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Table S 1. Elapsed time from dusk civil twilight to first departure; mean \pm SD, with number of observations in brackets. Monthly mean and SD times are in minutes. The colony combined annual average is 91 ± 78 (963) minutes. Maximum and minimum values are 332 and -1 minutes respectively. Significant differences are shaded grey.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	48 \pm 39 (97)	39 \pm 35 (38)	86 \pm 71 (103)	114 \pm 91 (162)	89 \pm 77 (198)		135 \pm 59 (27)	89 \pm 55 (58)	117 \pm 98 (52)	110 \pm 96 (102)	70 \pm 70 (41)	86 \pm 57 (86)
Male	36 \pm 44 (23)	13 \pm 4 (8)	86 \pm 94 (18)	126 \pm 69 (40)	86 \pm 75 (72)		134 \pm 40 (3)	99 \pm 45 (23)	104 \pm 79 (25)	109 \pm 96 (75)	60 \pm 71 (30)	74 \pm 68 (30)
Female	52 \pm 37 (74)	46 \pm 36 (30)	86 \pm 73 (85)	109 \pm 97 (122)	90 \pm 79 (125)		135 \pm 62 (24)	83 \pm 61 (35)	128 \pm 112 (27)	112 \pm 99 (27)	97 \pm 64 (11)	92 \pm 51 (56)
$\mu_M = \mu_F$ <i>F</i>	-1.53	-4.82	0.19	1.18	-0.39		-0.05	1.16	-0.89	-0.11	-1.57	-1.26
<i>p</i>	0.136	<0.001	0.841	0.242	0.699		0.965	0.249	0.380	0.911	0.132	0.213
$\mu_{\text{month}} = \mu_{\text{year}}$ <i>F</i>	-8.90	-8.31	-0.60	3.06	-0.33		3.81	-0.16	1.89	1.95	-1.85	-0.72
<i>p</i>	<0.001	<0.001	0.909	0.003	0.602		0.199	0.390	0.401	0.107	0.027	0.202

Table S 2. Elapsed time from last arrival to dawn civil twilight; mean \pm SD, with number of observations in brackets. Monthly mean and SD times are in minutes. The colony combined annual average is 142 ± 133 (751) minutes. Maximum and minimum values are 655 and -11 minutes respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	50 \pm 48 (80)	126 \pm 68 (22)	63 \pm 61 (97)	258 \pm 83 (82)	301 \pm 132 (138)		265 \pm 107 (26)		141 \pm 81 (47)	108 \pm 82 (101)	63 \pm 73 (50)	39 \pm 43 (108)
Male	57 \pm 37 (19)	172 \pm 24 (5)	78 \pm 43 (17)	232 \pm 65 (26)	296 \pm 131 (52)				169 \pm 66 (22)	101 \pm 73 (66)	63 \pm 69 (39)	58 \pm 53 (41)
Female	47 \pm 51 (60)	112 \pm 72 (11)	60 \pm 64 (80)	269 \pm 88 (56)	304 \pm 133 (86)		265 \pm 107 (26)		117 \pm 86 (25)	121 \pm 96 (35)	73 \pm 90 (11)	20 \pm 27 (67)
$\mu_M = \mu_F$ <i>F</i>	0.94	2.95	1.44	-2.12	-0.33				2.35	-1.11	-0.35	4.30
<i>p</i>	0.354	0.008	0.159	0.038	0.745				0.023	0.272	0.734	<0.001
$\mu_{\text{month}} = \mu_{\text{year}}$ <i>F</i>	-12.22	-1.08	-9.47	11.53	13.32		5.69		-0.08	-3.17	-6.37	-16.21
<i>p</i>	<0.0001	0.432	<0.0001	<0.0001	<0.0001		<0.0001		0.789	0.0018	<0.0001	<0.0001

Table S 3. Total nightly elapsed time the bat is out of the roost; mean \pm SD, with number of observations in brackets. Monthly mean and SD times are in minutes. The colony combined annual average is 312 ± 131 (674) minutes. Maximum and minimum values are 606 and 16 minutes respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	391 \pm 75 (72)	350 \pm 126 (26)	359 \pm 83 (94)	272 \pm 97 (70)	290 \pm 135 (133)		171 \pm 95 (25)		228 \pm 128 (45)	244 \pm 120 (81)	230 \pm 85 (46)	467 \pm 8 (74)
Male	344 \pm 66 (21)	248 \pm 101 (6)	320 \pm 60 (16)	292 \pm 97 (25)	292 \pm 143 (51)				177 \pm 77 (22)	227 \pm 107 (59)	228 \pm 92 (37)	448 \pm 105 (22)
Female	400 \pm 78 (57)	381 \pm 118 (20)	367 \pm 86 (78)	260 \pm 95 (47)	289 \pm 130 (82)		171 \pm 95 (25)		277 \pm 149 (23)	289 \pm 144 (22)	239 \pm 49 (9)	476 \pm 63 (52)
$\mu_M = \mu_F$ <i>F</i>	-3.15	-2.68	-2.64	1.36	0.15				-2.85	-1.86	-0.47	-1.16
<i>p</i>	0.003	0.023	0.013	0.181	0.883				0.007	0.072	0.643	0.256
$\mu_{\text{month}} = \mu_{\text{year}}$ <i>F</i>	7.04	1.51	4.72	-3.33	-1.74		-7.21		-4.23	-4.79	-6.65	14.98
<i>p</i>	<0.001	0.142	<0.001	0.001	0.083		<0.001		<0.001	<0.001	<0.001	<0.001

Table S 4. Elapsed time between the first departure and the last arrival; mean \pm SD, with number of observations in brackets. Monthly mean and SD times are in minutes. The colony combined annual average is 406 ± 135 (671) minutes. Maximum and minimum values are 649 and 23 minutes respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	489 \pm 58 (71)	455 \pm 68 (22)	512 \pm 93 (92)	334 \pm 111 (76)	344 \pm 135 (135)		326 \pm 126 (23)		402 \pm 120 (41)	373 \pm 144 (85)	337 \pm 155 (54)	480 \pm 70 (72)
Male	488 \pm 51 (18)	421 \pm 22 (5)	497 \pm 67 (17)	348 \pm 112 (23)	347 \pm 128 (51)				388 \pm 228 (20)	359 \pm 151 (61)	329 \pm 160 (42)	464 \pm 95 (21)
Female	489 \pm 61 (53)	465 \pm 74 (17)	515 \pm 98 (75)	328 \pm 112 (53)	342 \pm 139 (84)		326 \pm 126 (23)		416 \pm 123 (21)	410 \pm 118 (24)	366 \pm 135 (12)	487 \pm 57 (51)
$\mu_M = \mu_F$ <i>F</i>	-0.07	-2.10	-0.89	0.72	0.19				-0.74	-1.67	--0.81	-1.04
<i>p</i>	0.946	0.048	0.381	0.477	0.848				0.463	0.100	0.432	0.310
$\mu_{\text{month}} = \mu_{\text{year}}$ <i>F</i>	9.60	3.19	9.69	-5.18	-4.82		-2.97		-0.18	-1.98	-3.14	7.64
<i>p</i>	<0.001	0.004	<0.001	<0.001	<0.001		0.007		0.860	0.050	0.008	<0.001

Table S 5. The number of passes through the antenna; mean \pm SD, with number of observations in brackets. The colony combined annual average is 7.5 ± 11.31 (569) passes. Maximum and minimum values are 90 and 1 pass respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	6.9 \pm 7.4 (80)	10.1 \pm 12.5 (27)	6.0 \pm 7.2 (54)	6.2 \pm 9.4 (53)	11.2 \pm 16.2 (41)		11.2 \pm 11.3 (31)		11.1 \pm 17.9 (42)	8.8 \pm 11.1 (98)	5.7 \pm 12.3 (51)	3.7 \pm 8.5 (86)
Male	6.7 \pm 4.0 (21)	7.7 \pm 2.9 (6)	4.4 \pm 1.0 (9)	6.9 \pm 10.8 (15)	15.4 \pm 22.1 (14)		6.5 \pm 4.9 (2)		6.1 \pm 7.5 (21)	6.2 \pm 6.6 (68)	4.0 \pm 2.8 (40)	6.4 \pm 14.9 (27)
Female	7.0 \pm 8.2 (59)	10.8 \pm 14.1 (21)	6.3 \pm 7.8 (45)	6.0 \pm 8.9 (38)	9.1 \pm 12.1 (27)		11.5 \pm 11.5 (29)		16 \pm 23.4 (21)	14.8 \pm 16.1 (30)	12.2 \pm 25.9 (11)	2.5 \pm 1.3 (59)
$\mu_M = \mu_F$ F	-0.19	-0.96	-1.52	0.28	0.98		-1.22		-1.83	-2.82	-1.05	1.33
p	0.849	0.349	0.134	0.786	0.342		0.353		0.079	0.008	0.318	0.194
$\mu_{\text{month}} = \mu_{\text{year}}$ F	-0.65	1.06	-1.41	-0.92	1.46		1.77		1.27	1.07	-0.91	-3.65
p	0.51	0.30	0.16	0.36	0.15		0.09		0.21	0.29	0.33	<0.001

Table S 6. The number of departure-arrival pairs indicating foraging periods away from the roost; mean \pm SD, with number of observations in brackets. The colony combined annual average is 2.0 ± 1.16 (566) passes. Maximum and minimum values are 8 and 1 pass respectively.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Colony	2.3 \pm 1.0 (81)	2.2 \pm 1.4 (26)	2.0 \pm 0.7 (54)	1.6 \pm 0.9 (55)	1.6 \pm 0.9 (42)		2.2 \pm 1.3 (33)		2.5 \pm 1.8 (42)	2.3 \pm 1.4 (97)	1.8 \pm 0.8 (51)	1.1 \pm 0.4 (85)
Male	2.6 \pm 0.9 (21)	3.3 \pm 1.4 (6)	2.1 \pm 0.6 (9)	1.9 \pm 1.2 (16)	1.9 \pm 1.1 (15)		1.3 \pm 0.6 (3)		2.1 \pm 1.1 (20)	2.0 \pm 0.9 (67)	1.7 \pm 0.8 (40)	1.2 \pm 0.4 (26)
Female	2.2 \pm 1.1 (56)	1.9 \pm 1.2 (20)	2.0 \pm 0.7 (45)	1.5 \pm 0.7 (39)	1.5 \pm 0.8 (27)		2.3 \pm 1.3 (30)		2.9 \pm 2.3 (21)	3.0 \pm 1.9 (30)	2.1 \pm 0.7 (11)	1.1 \pm 0.4 (59)
$\mu_M = \mu_F$ F	1.72	2.31	0.68	1.45	1.11		-2.43		-1.29	-2.73	-1.60	0.20
p	0.091	0.052	0.508	0.163	0.279		0.064		0.208	0.010	0.126	0.843
$\mu_{\text{month}} = \mu_{\text{year}}$ F	3.00	1.03	0.29	-2.70	-2.07		1.26		1.94	2.65	-1.42	-12.24
p	0.003	0.312	0.776	0.009	0.042		0.216		0.059	0.009	0.158	<0.001