

The following supplement accompanies the article

Mate similarity in foraging Kerguelen shags: a combined bio-logging and stable isotope investigation

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Table S1. Summary of diving metrics for Kerguelen shags (n = 12) instrumented at the Pointe Suzanne colony, Kerguelen Islands (means \pm SD, and coefficients of variation). F = female, M = male

Bird/pair number	Sex	Modal depth (m)		Vertical distance travelled (m)		Dive duration (s)	
		Mean \pm SD	CV	Mean \pm SD	CV	Mean \pm SD	CV
1/8 (n = 8 trips)	M	63.6 \pm 22.5	0.11	1053.0 \pm 372.3	0.70	191.1 \pm 68.8	0.14
2/9 (n = 5 trips)	F	27.1 \pm 12.1	0.04	1371.4 \pm 613.3	0.28	126.7 \pm 56.5	0.04
3/9 (n = 9 trips)	M	24.0 \pm 8.0	0.04	1508.9 \pm 503.0	0.33	100.9 \pm 34.2	0.11
4/8 (n = 4 trips)	F	24.7 \pm 12.3	0.15	1566.8 \pm 783.4	0.44	128.3 \pm 63.0	0.10
5/10 (n = 5 trips)	F	21.5 \pm 9.6	0.16	1183.7 \pm 529.4	0.68	119.3 \pm 55.6	0.14
6/11 (n = 5 trips)	F	13.8 \pm 6.2	0.07	1515.8 \pm 677.9	0.48	86.1 \pm 39.4	0.07
7/12 (n = 5 trips)	F	56.3 \pm 25.2	0.24	1326.6 \pm 593.3	0.28	190.5 \pm 85.7	0.12
8/12 (n = 3 trips)	M	70.3 \pm 40.6	0.25	1697.4 \pm 980.0	0.54	229.1 \pm 126.9	0.16
9/10 (n = 9 trips)	M	55.8 \pm 18.6	0.20	949.1 \pm 316.4	0.61	179.6 \pm 59.3	0.06
10/11 (n = 7 trips)	M	38.7 \pm 14.6	0.15	1158.4 \pm 437.8	0.47	150.2 \pm 58.0	0.14
11/13 (n = 10 trips)	F	10.1 \pm 3.2	0.25	1657.0 \pm 524.0	0.56	59.6 \pm 19.6	0.15
12/13 (n = 6 trips)	M	1.2 \pm 0.5	0.06	359.3 \pm 146.7	0.72	22.0 \pm 8.7	0.21

Table S2. Spatial summary for Kerguelen shags (n=13 pairs) equipped at the Pointe Suzanne colony, Kerguelen Islands (INC= incubation/early chick-rearing, CR= late chick-rearing); all values are (n) mean \pm SD

Pair	Stage	Trip duration (h)		Maximum distance (km)		Total distance (km)		Bearing (°)		Index of habitat use consistency	
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
1	CR	(5) 8.0 \pm 0.8	(6) 3.8 \pm 2.2	(5) 19.0 \pm 1.1	(6) 7.0 \pm 2.3	(5) 44.0 \pm 3.6	(6) 17.9 \pm 6.3	(5) 25.4 \pm 0.0	(6) 35.4 \pm 0.1	(5) 8.4	(6) 5.4
2	INC	(4) 3.8 \pm 2.4	(12) 2.1 \pm 1.4	(4) 6.0 \pm 2.5	(12) 0.8 \pm 0.3	(4) 14.6 \pm 6.6	(12) 2.6 \pm 1.1	(4) 26.7 \pm 0.2	(12) 73.5 \pm 0.8	(4) 6.5	(12) 1.1
3	CR	(8) 5.5 \pm 2.3	(7) 4.7 \pm 3.4	(8) 8.7 \pm 0.2	(7) 15.3 \pm 6.5	(8) 23.8 \pm 3.6	(7) 36.4 \pm 16.1	(8) 143.8 \pm 0.0	(7) 96.7 \pm 0.3	(8) 2.4	(7) 25.4
4	INC	(5) 6.4 \pm 2.3	(6) 6.8 \pm 2.4	(5) 8.2 \pm 2.8	(6) 8.1 \pm 3.5	(5) 25.3 \pm 7.9	(6) 22.9 \pm 9.0	(5) 29.2 \pm 0.2	(6) 85.9 \pm 0.6	(5) 3.4	(6) 18.6
5	INC	(5) 6.6 \pm 0.8	(7) 6.0 \pm 3.3	(5) 14.0 \pm 0.2	(7) 16.0 \pm 8.2	(5) 33.0 \pm 1.9	(7) 38.4 \pm 20.0	(5) 34.7 \pm 0.1	(7) 51.0 \pm 0.5	(5) 7.0	(7) 24.1
6	INC	(5) 6.5 \pm 1.4	(5) 7.0 \pm 1.9	(5) 10.3 \pm 3.0	(5) 20.7 \pm 4.7	(5) 30.8 \pm 5.9	(5) 52.8 \pm 15.5	(5) 38.9 \pm 0.1	(5) 29.9 \pm 0.1	(5) 14.4	(5) 9.1
	CR	(6) 5.2 \pm 2.5	(12) 5.9 \pm 2.6	(6) 8.9 \pm 3.4	(12) 14.2 \pm 8.9	(6) 20.6 \pm 10.1	(12) 30.9 \pm 12.8	(6) 45.5 \pm 0.3	(12) 31.4 \pm 0.2	(6) 6.4	(12) 13.7
7	INC	(4) 6.1 \pm 0.8	(4) 8.1 \pm 1.5	(4) 2.4 \pm 0.5	(4) 8.9 \pm 0.6	(4) 11.9 \pm 3.8	(4) 31.1 \pm 3.6	(4) 159.8 \pm 0.1	(4) 87.4 \pm 0.2	(4) 1.1	(4) 13.8
	CR	(8) 7.5 \pm 5.7	(18) 5.0 \pm 2.3	(8) 3.0 \pm 1.5	(18) 8.1 \pm 1.3	(8) 9.5 \pm 4.6	(18) 19.6 \pm 5.0	(8) 161.5 \pm 0.2	(18) 82.5 \pm 0.5	(8) 2.4	(18) 9.2
8	CR	(4) 6.1 \pm 2.7	(8) 4.6 \pm 3.0	(4) 4.9 \pm 2.6	(8) 16.5 \pm 5.8	(4) 15.5 \pm 7.9	(8) 75.8 \pm 29.7	(4) 71.7 \pm 0.5	(8) 53.7 \pm 0.2	(4) 5.5	(8) 23.9
9	CR	(5) 5.9 \pm 1.7	(9) 4.8 \pm 1.3	(5) 14.2 \pm 3.8	(9) 12.5 \pm 0.2	(5) 33.1 \pm 10.0	(9) 28.3 \pm 1.4	(5) 39.3 \pm 0.1	(9) 39.1 \pm 0.1	(5) 9.7	(9) 8.6
10	CR	(5) 5.3 \pm 3.7	(9) 5.3 \pm 3.1	(5) 10.4 \pm 9.9	(9) 8.9 \pm 1.4	(5) 26.4 \pm 23.3	(9) 22.4 \pm 7.9	(5) 81.8 \pm 0.8	(9) 82.2 \pm 0.2	(5) 16.6	(9) 7.9
11	CR	(5) 6.9 \pm 3.4	(7) 4.7 \pm 2.2	(5) 12.1 \pm 5.6	(7) 13.8 \pm 7.7	(5) 32.8 \pm 15.5	(7) 32.5 \pm 17.5	(5) 21.0 \pm 0.2	(7) 57.5 \pm 0.4	(5) 4.9	(7) 17.9
12	CR	(5) 5.5 \pm 1.3	(3) 5.6 \pm 2.9	(5) 17.9 \pm 3.6	(3) 12.4 \pm 5.4	(5) 38.6 \pm 6.9	(3) 31.8 \pm 14.7	(5) 48.8 \pm 0.1	(3) 85.4 \pm 0.5	(5) 32.7	(3) 24
13	CR	(10) 5.3 \pm 2.8	(6) 4.9 \pm 4.8	(10) 1.6 \pm 0.5	(6) 2.5 \pm 2.1	(10) 5.8 \pm 3.1	(6) 9.4 \pm 10.3	(10) -30.7 \pm 1.3	(6) -11.8 \pm 0.2	(10) 1.89	(6) 2.4

Table S3. Isotope values for Kerguelen shags (n=12) sampled at the Pointe Suzanne colony, Kerguelen Islands, in blood (incubation/early chick-rearing and late chick-rearing) and in feathers (F=female, M=male)

Pair	Sex	Carbon blood incubation/early chick-rearing	Nitrogen blood incubation/early chick-rearing	Carbon blood late chick- rearing	Nitrogen blood late chick- rearing	Carbon feather	Nitrogen feather
1	F	-18.94	15.79	-18.17	15.27	-18.13	17.35
1	M	-14.97	15.99	-14.44	15.27	-13.77	16.6
2	F	-14.68	16.17			-13.88	16.53
2	M	-19.97	16.49			-20.06	17.39
3	F	-18.25	13.54	-18.24	12.88	-16.78	13.74
3	M	-15.9	13.48	-16.03	13.23	-14.45	14.56
4	F	-15.41	15.46			-14.71	16.35
4	M	-16.46	14.77			-14.93	15.08
5	F	-15.7	14.89			-14.7	14.42
5	M	-16.14	14.3			-14.88	15.27
6	F	-16.13	14.88	-16.02	14.31	-15.43	15.43
6	M	-17.89	15.79	-16.66	15.19	-15.54	16.67
7	F	-16.74	14.87	-16.7	13.99	-15.59	15.09
7	M	-15.84	13.82	-15.75	13.41	-14.28	15.11
8	F	-14.95	15.52	-14.7	15.07	-13.32	16.48
8	M	-15.62	14.48	-15.44	13.93	-14.6	14.52
9	F	-18.03	15.28			-16.68	16.01
9	M	-15.83	13.32			-14.65	14.21
10	F			-16.82	13.74	-16.71	13.47
10	M			-15.72	13.41	-13.99	13.96
11	F			-16.33	14.5	-14.93	15.46
11	M			-15.7	14.2	-15.33	14.98
12	F			-16.16	14.2	-16.51	14.46
12	M			-15.52	13.55	-13.64	14.82
13	F			-16.55	15.79	-14.85	17.41

13	M	-15.65	14.46	-14.6	14.65
14	F	-15.99	13.29	-14.29	14
14	M	-15.79	12.97	-14.38	13.91
15	F	-15.31	15.54	-15.73	16.66
15	M	-19.69	16.68	-16.3	14.01

Fig S1. $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values for males (triangles) and females (circles) within breeding pairs of Kerguelen shags sampled at the Pointe Suzanne colony (partners are indicated by shared colours, n= 15 pairs)

