

## Supplementary Materials

Lovers, not fighters: Docility influences reproductive fitness, but not survival, in male Cape ground squirrels, *Xerus inauris*

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Miyako H Warrington<sup>a,b\*</sup>, Sienna Beaulieu<sup>b</sup>, Riley Jellicoe<sup>b</sup>, Sjoerd Vos<sup>b,c</sup>, Nigel C Bennett<sup>d</sup>, Jane M Waterman<sup>b,d</sup>

a- Department of Biological and Medical Sciences, Oxford Brookes University, Oxford, UK

b- Department of Biological Sciences, University of Manitoba, Winnipeg, MB, Canada

c- Graduate School of Life Sciences, University of Utrecht, Utrecht, Netherlands

d- Mammal Research Institute, Department of Zoology and Entomology, University of Pretoria, Pretoria 0002, South Africa

\*Corresponding author: Miyako H Warrington, [mwarrington@brookes.ac.uk](mailto:mwarrington@brookes.ac.uk)

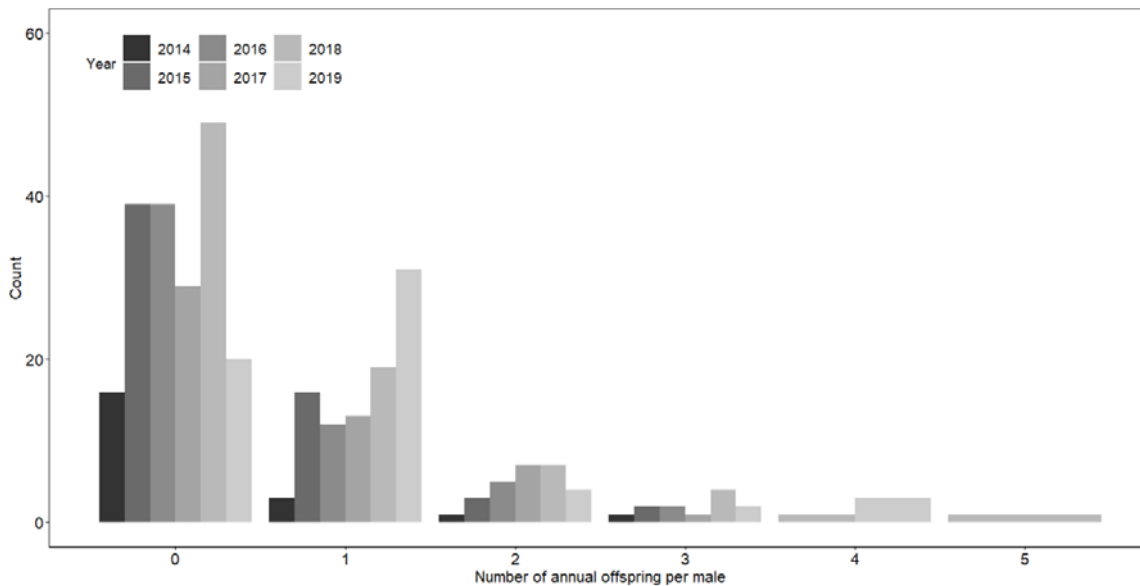
**Descriptive statistics for docility**

**Table S1:** Mean ± SE docility score during approach, transfer, handling and release for all adult males sampled, by year. Males were sampled 914 times over the years, and this represented 274 unique males that were sampled on average 3.3 times each (range 2-24 times per individual).

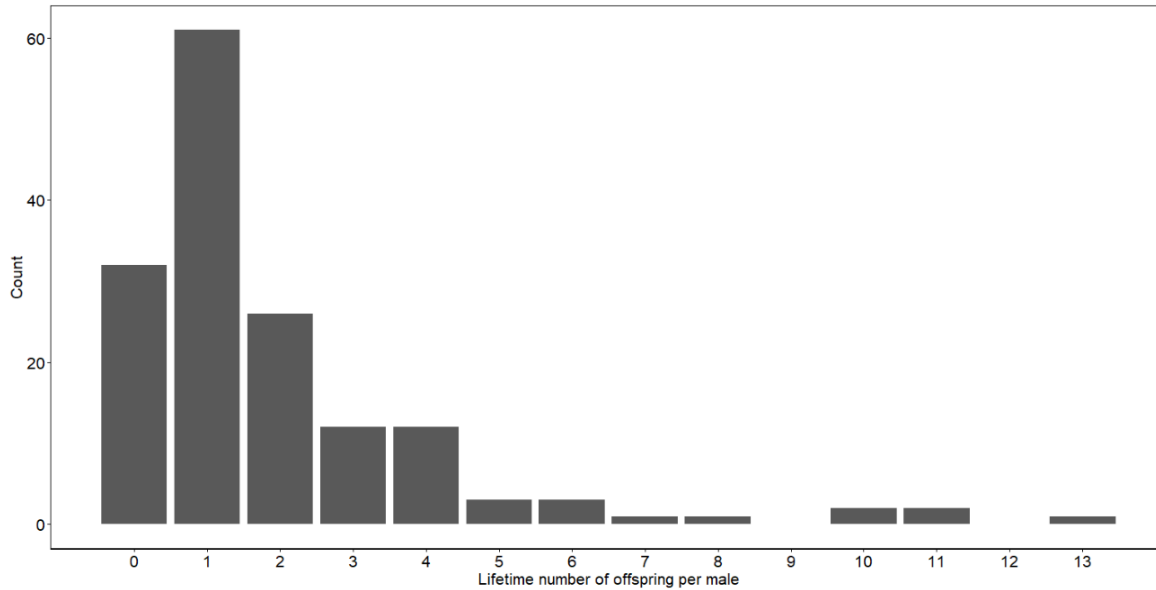
Year	N sample size	N unique males	Mean±SE docility score			
			Approach	Transfer	Handling	Release
2014	55	24	0.58±0.08	0.63±0.10	0.56±0.10	0.67±0.06
2015	227*	80*	0.79±0.05	0.39±0.04	0.22±0.03	0.97±0.01
2016	83*	73*	0.73±0.07	0.32±0.07	0.25±0.06	0.96±0.02
2017	66	61	0.52±0.07	0.28±0.07	0.41±0.08	0.88±0.04
2018	216*	119*	0.46±0.04	0.19±0.03	0.27±0.04	0.87±0.02
2019	267*	125*	0.53±0.04	0.19±0.03	0.27±0.03	0.93±0.02
2014-2019	914	274				

\* N sample size (N unique males) for release in N2015 = 209(73), N2016 = 82(72), N2018 = 214,(117), N2019 = 266(124)

**Descriptive statistics for reproductive output**



**Fig.S1:** Histogram of the number of annual offspring for each unique male identification by year (unique TagYear).



**Fig.S2:** Histogram of the total number of offspring over their lifetime for each unique male identification (unique Tag ID).

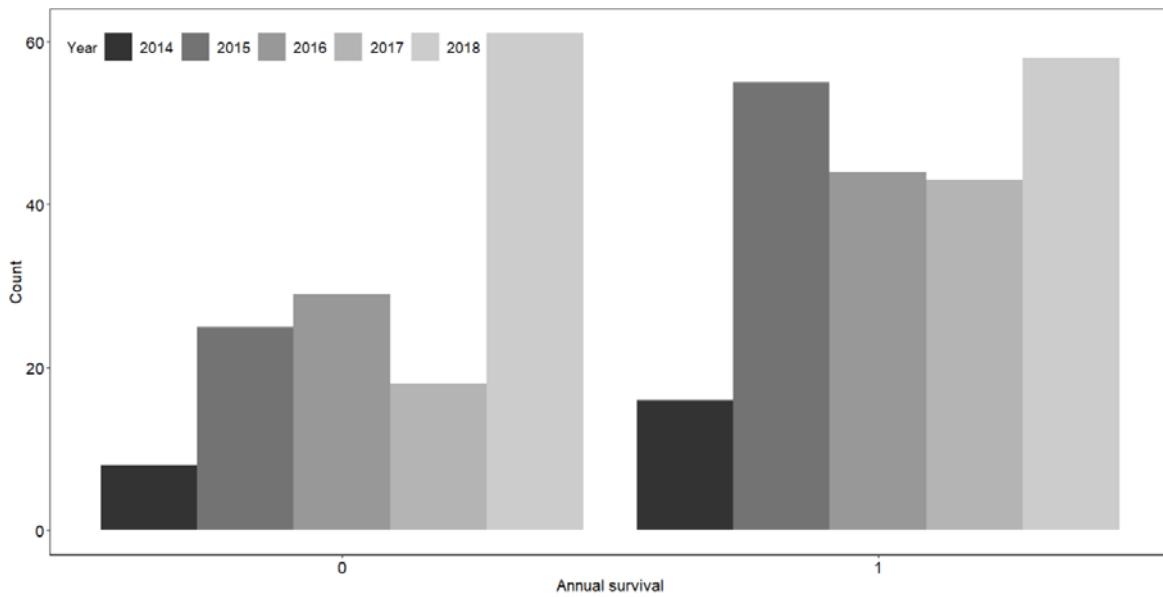
**Table S2:** Mean  $\pm$  SE number of annual offspring for each unique male identification by year (unique TagID-Year).

Year	Number of males					
	Zero offspring	1 offspring	2 offspring	3 offspring	4 offspring	5 offspring
2014	16	3	1	1	0	0
2015	39	16	3	2	0	0
2016	39	12	5	2	0	0
2017	29	13	7	1	0	0
2018	49	19	7	4	1	1
2019	20	31	4	2	3	0
Total	192	94	27	12	4	1
Prop.	0.58	0.28	0.08	0.04	0.01	0.003

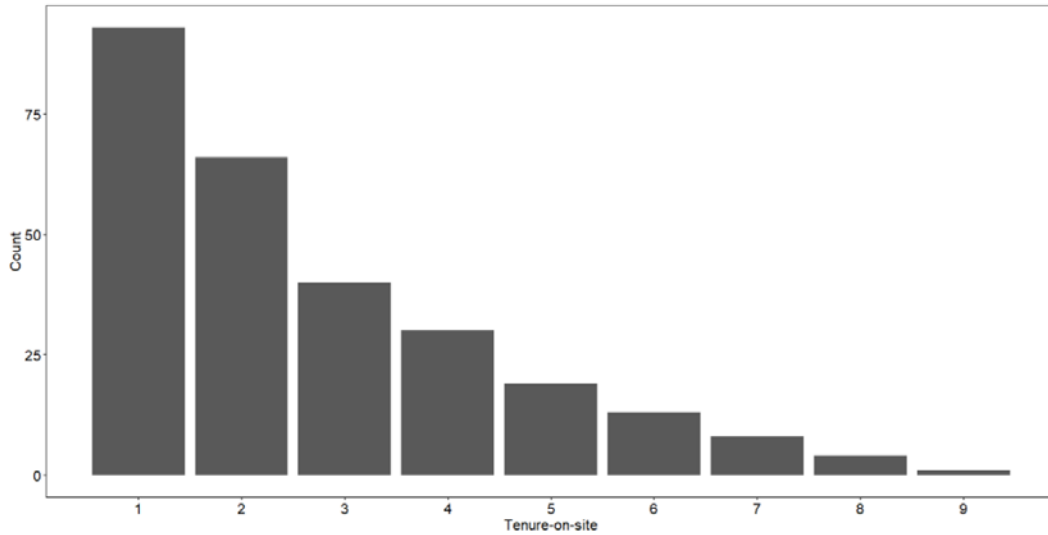
**Table S3:** Lifetime reproductive success (measured by the total number of offspring) for each unique male identification (unique Tag ID). For N = 120 males, we could not determine lifetime reproductive success because they were still alive at the end of the study (in 2019).

Total # offspring	# unique males
0	32
1	61
2	26
3	12
4	12
5	3
6	3
7	1
8	1
10	2
11	2
13	1

**Descriptive statistics for survival**



**Fig. S3:** Histogram of the annual survival ( 0 = disappeared/ not re-sighted; 1= trapped or observed) the followed year for each unique male identification per year (unique TagYear).



**Fig. S4:** On-site persistence, a proxy for lifespan for males (N=274) captured and scored for docility at S.A. Lombard Nature reserve from 2014-2015.

**Table S4:** The number and proportion of males (unique TagYears) that were re-sighted (survived) the following year.

Year	Number disappeared	Number survived	Prop survival
2014	8	16	0.67
2015	25	55	0.69
2016	29	44	0.60
2017	18	43	0.70
2018	61	58	0.49

**Table S5:** On-site persistence, a proxy for lifespan for males (N=236) captured and scored for docility at S.A. Lombard nature reserve from 2011-2015.

Tenure on-site	# unique males	Prop of males
1	93	0.34
2	66	0.24
3	40	0.15
4	30	0.11
5	19	0.07
6	13	0.05
7	8	0.03
8	4	0.01
9	1	0.004

## **Capture history**

Table S6: Gaps in capture history of males (N=154) first captured from 2011-2017 at S.A.Lombard nature reserve. Males first captured in 2018 and 2019 (N=121) were excluded as 2-3 years of continuous subsequent capture history was unavailable. Note that travel restriction in 2020 due to the COVID-19 pandemic restrictions created a gap in the trapping records at our study site.

First year trapped	Skipped trapping				Total Males
	0 years	1 year	2 years	3 years	
2011	8	0	1	0	9
2012	6	0	0	0	6
2013	24	3	1	1	28
2014	14	1	0	0	15
2015	32	3	2	0	37
2016	22	2	0	0	24
2017	30	4	1	0	35
2011-2017	136	13	5	1	154
Proportion	0.88	0.08	0.03	0.006	

**Effect of fixed factors**

**Table S7:** The effect of fixed factors on all response covariates (repeatable docility measures (transfer, handling), reproductive tactic, and fitness/survival measures). The natal reproductive tactic is given as a reference, so the effect shown is that of the ‘band’ tactic. Significant effects are bolded.

Model	Fixed effect	Response variable	$\beta$	95% CI	pMCMC
M1- Annual Offspring: Continuous	<b>Tenure</b>	<b>Annual Offspring: Continuous</b>	<b>0.5</b>	<b>0.34 – 0.66</b>	<b>&lt;0.0005</b>
	Tenure	Docility: transfer	-0.17	-0.44 – 0.12	0.29
	Tenure	Docility: handling	0.17	-0.09 – 0.40	0.19
	<b>Tenure</b>	<b>Band tactic</b>	<b>60.16</b>	<b>29.05 – 100.17</b>	<b>&lt;0.0005</b>
	Rainfall	Annual Offspring: Continuous	-0.1	-0.24 – 0.50	0.20
	Rainfall	Docility: transfer	-0.15	-0.36 – 0.09	0.2
	Rainfall	Docility: handling	0.04	-0.19 – 0.28	0.76
	<b>Rainfall</b>	<b>Band tactic</b>	<b>9.233</b>	<b>1.31 – 16.67</b>	<b>0.004</b>
	<b>Body condition</b>	<b>Annual Offspring: Continuous</b>	<b>0.32</b>	<b>0.17 – 0.47</b>	<b>0.001</b>
	Body condition	Docility: transfer	-0.08	-0.31 – 0.15	0.49
	Body condition	Docility: handling	-0.07	-0.31 – 0.14	0.46
	Body condition	Band tactic	2.88	-5.08 – 11.90	0.51
M2 - Annual Offspring: Binary	<b>Tenure</b>	<b>Annual Offspring: Binary</b>	<b>24.89</b>	<b>1.47 – 43.05</b>	<b>&lt;0.0005</b>
	Tenure	Docility: transfer	-0.17	-0.46 – 0.12	0.27
	Tenure	Docility: handling	0.17	-0.08 – 0.41	0.20
	<b>Tenure</b>	<b>Band tactic</b>	<b>65.87</b>	<b>26.95 – 97.74</b>	<b>&lt;0.0005</b>
	Rainfall	Annual Offspring: Binary	-6.99	-16.59 – 0.24	0.06
	Rainfall	Docility: transfer	-0.15	-0.38 – 0.08	0.21
	Rainfall	Docility: handling	0.05	-0.18 – 0.28	0.71
	<b>Rainfall</b>	<b>Band tactic</b>	<b>9.88</b>	<b>0.18 – 29.66</b>	<b>0.002</b>
	<b>Body condition</b>	<b>Annual Offspring: Binary</b>	<b>18.21</b>	<b>0.89 – 30.95</b>	<b>&lt;0.0005</b>
	Body condition	Docility: transfer	-0.11	-0.35 – 0.11	0.36
	Body condition	Docility: handling	-0.09	-0.33 – 0.12	0.40
	Body condition	Band tactic	3.91	-6.15 – 14.88	0.39
M3 - Total Offspring: Continuous	Tenure	Total Offspring: Continuous	0.06	-0.08 – 0.21	0.45
	Tenure	Docility: transfer	-0.41	-0.97 – 0.18	0.14
	Tenure	Docility: handling	-0.15	-0.69 – 0.32	0.57
	<b>Tenure</b>	<b>Band tactic</b>	<b>14.27</b>	<b>5.66 – 23.39</b>	<b>&lt;0.0005</b>
	Rainfall	Total Offspring: Continuous	-0.01	-0.10 – 0.08	0.78
	Rainfall	Docility: transfer	-0.2	-0.59 – 0.18	0.3
	Rainfall	Docility: handling	-0.07	-0.42 – 0.31	0.68
	Rainfall	Band tactic	1.78	-0.26 – 4.07	0.1
	Body condition	Total Offspring: Continuous	-0.02	-0.11 – 0.09	0.78
	Body condition	Docility: transfer	0.11	-0.24 – 0.51	0.57
	Body condition	Docility: handling	0.07	-0.28 – 0.39	0.66
	Body condition	Band tactic	0.34	-2.15 – 3.16	0.84

M4 - Total Offspring: Binary	Tenure	Total Offspring: Binary	0.19	-0.17 – 0.58	0.33
	Tenure	Docility: transfer	-0.32	-0.86 – 0.23	0.25
	Tenure	Docility: handling	-0.14	-0.63 – 0.35	0.57
	<b>Tenure</b>	<b>Band tactic</b>	<b>14.17</b>	<b>3.53 – 21.87</b>	<b>&lt;0.0005</b>
	Rainfall	Total Offspring: Binary	0.03	-0.38 – 0.51	0.97
	Rainfall	Docility: transfer	-0.22	-0.60 – 0.15	0.23
	Rainfall	Docility: handling	-0.04	-0.42 – 0.28	0.78
	<b>Rainfall</b>	<b>Band tactic</b>	<b>3.18</b>	<b>0.49 – 6.76</b>	<b>0.02</b>
	Body condition	Total Offspring: Binary	0.21	-0.34 – -0.81	0.15
	Body condition	Docility: transfer	0.08	-0.29 – 0.48	0.72
	Body condition	Docility: handling	0.07	-0.28 – 0.42	0.73
	Body condition	Band tactic	-1.08	-3.96 – 1.56	0.48
	M5 - Annual Survival			-	<b>-115.26 – -</b>
	<b>Tenure</b>	<b>Annual Survival</b>	<b>66.63</b>	<b>17.23</b>	<b>&lt;0.0005</b>
	Tenure	Docility: transfer	-0.22	-0.51 – 0.06	0.13
	Tenure	Docility: handling	0.21	-0.03 – 0.46	0.11
	<b>Tenure</b>	<b>Band tactic</b>	<b>43.63</b>	<b>16.28 – 70.33</b>	<b>&lt;0.0005</b>
	<b>Rainfall</b>	<b>Annual Survival</b>	<b>-9.02</b>	<b>-19.27 – -1.17</b>	<b>&lt;0.0005</b>
	Rainfall	Docility: transfer	-0.14	-0.34 – 0.05	0.14
	Rainfall	Docility: handling	0.06	-0.13 – 0.25	0.58
	<b>Rainfall</b>	<b>Band tactic</b>	<b>8.63</b>	<b>1.69 – 15.53</b>	<b>0.001</b>
	Body condition	Annual Survival	-3.49	-10.30 – 1.38	0.19
	Body condition	Docility: transfer	-0.07	-0.27 – 0.12	0.46
	Body condition	Docility: handling	-0.08	-0.26 – 0.12	0.42
	Body condition	Band tactic	0.69	-6.65 – 7.80	0.85
M6 - On-site Persistence : Continuous	Tenure	Docility: transfer	-0.18	-0.49 – 0.14	0.25
	Tenure	Docility: handling	0.11	-0.14 – 0.37	0.42
	<b>Tenure</b>	<b>Band tactic</b>	<b>19.41</b>	<b>9.28 – 28.31</b>	<b>&lt;0.0005</b>
	Rainfall	On-site Persistence : Continuous	0.004	-0.04 – 0.05	0.84
	Rainfall	Docility: transfer	-0.13	-0.35 – 0.07	0.21
	Rainfall	Docility: handling	0.04	-0.18 – 0.26	0.75
	<b>Rainfall</b>	<b>Band tactic</b>	<b>4.88</b>	<b>1.13 – 7.96</b>	<b>&lt;0.0005</b>
	Body condition	On-site Persistence : Continuous	0.006	-0.06 – 0.06	0.88
	Body condition	Docility: transfer	-0.07	-0.27 – 0.15	0.47
	Body condition	Docility: handling	-0.06	-0.28 – 0.14	0.61
	Body condition	Band tactic	-0.88	-4.10 – 2.03	0.61
M7 - On-site Persistence: Binary	Tenure	Docility: transfer	-0.1	-0.38 – 0.17	0.52
	Tenure	Docility: handling	0.11	-0.13 – 0.34	0.38
	<b>Tenure</b>	<b>Band tactic</b>	<b>12.36</b>	<b>4.32 – 18.09</b>	<b>&lt;0.0005</b>
	Rainfall	On-site Persistence: Binary	0.03	-0.11 – 0.18	0.64
	Rainfall	Docility: transfer	-0.15	-0.34 – 0.05	0.13
	Rainfall	Docility: handling	0.04	-0.18 – 0.27	0.76
	<b>Rainfall</b>	<b>Band tactic</b>	<b>2.88</b>	<b>0.65 – 4.67</b>	<b>&lt;0.0005</b>
	Body condition	On-site Persistence: Binary	-0.16	-0.72 – 0.21	0.65
	Body condition	Docility: transfer	-0.07	-0.31 – 0.10	0.48
	Body condition	Docility: handling	-0.04	-0.25 – 0.16	0.67
	Body condition	Band tactic	-0.23	-2.19 – 1.62	0.83