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The evolution of infanticide by females in mammals

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Abstract

In most mammalian species, females regularly interact with kin, and it may thus be difficult to understand the evolution of some aggressive and harmful competitive behaviour among females, such as infanticide. Here, we investigate the evolutionary determinants of infanticide by females by combining a quantitative analysis of the taxonomic distribution of infanticide with a qualitative synthesis of the circumstances of infanticidal attacks in published reports. Our results show that female infanticide is widespread across mammals and varies in relation to social organization and life-history, being more frequent where females breed in groups and have intense bouts of high reproductive output. Specifically, female infanticide occurs where the proximity of conspecific offspring directly threatens the killer's reproductive success by limiting access to critical resources for her dependent progeny, including food, shelters, care or a social position. In contrast, infanticide is not immediately modulated by the degree of kinship among females, and females occasionally sacrifice closely related juveniles. Our findings suggest that the potential direct fitness rewards of gaining access to reproductive resources have a stronger influence on the expression of female aggression than the indirect fitness costs of competing against kin.

Introduction

Recent work has emphasized that competitive strategies of female mammals are often strikingly symmetrical to those observed in males, including displays and ornaments, fighting and weaponry, dominance hierarchies, and reproductive suppression [Clutton-Brock 2007, 2013; Stockley & Bro-Jørgensen 2011; Clutton-Brock & Huchard 2013]. However, while interactions among conspecific male mammals are often contextual and temporally limited to competition over access to mating partners [Emlen & Oring 1977; Connor & Krützen 2015], interactions among females tend to occur across extended periods and multiple settings [Gowaty 2004; Clutton-Brock 2016]. Females may thus compete over a diversity of resources - including food, resources necessary to breed (burrows, home-range), or offspring care [Clutton-Brock 2007]. In addition, since female mammals are typically philopatric, they may often compete with kin. It has therefore proven difficult to identify the determinants of overt female-female competition, in particular in societies that are structured around female kinship. The challenge has been to understand how the direct benefits of competition may be balanced with the indirect fitness costs of competing against kin, especially in the case of extremely harmful behaviour such as infanticide [Clutton-Brock et al. 2001; Young et al. 2006].

The killing of rivals' offspring represents one violent manifestation of intrasexual competition, and a significant source of juvenile mortality in some populations [Palombit 2012], with adults of both sexes committing infanticide. It has been intensely studied in male mammals, where fifty years of field research have shown that it has evolved as a sexually selected strategy over access to mating partners [Hrdy 1974]. In cases where the presence of a dependent offspring prevents the mother from becoming pregnant again, committing an infanticide allows the killer to create extra reproductive opportunities. This strategy is particularly common in

polygynous societies where one or a few alpha male(s) monopolize mating opportunities over short periods before losing dominance to others [van Schaik & Janson 2000; Lukas & Huchard 2014; Palombit 2015]. Since in most instances infanticide is committed by males who recently joined the group, they are unlikely to kill any related offspring [Hrdy 1979]. In contrast, as for other forms of female competition, little is known about the determinants and consequences of infanticide by females other than the mother, although it may be more prevalent than infanticide by males, both within and across taxa [Hrdy 1976, Blumstein 2000; Digby 2000]. Unlike males, female killers do not benefit from extra mating opportunities [Agrell et al. 1998; Digby 2000], because male mammals generally do not invest into offspring care to the extent that it would prevent them from mating with other females [Kleiman & Malcom 1981]. If anything, killing a dependent juvenile may exacerbate female mating competition by speeding-up the resumption to fertility for the mother of the victim. Several plausible scenarios explaining the occurrence of infanticide by females have been proposed based on a synthesis of natural observations [reviewed by Digby 2000]. Symmetrically to the patterns observed for male infanticide, predation for nutritional gains (H1: ‘exploitation’ hypothesis) may not provide a general explanation for female infanticide as killers have relatively rarely been observed to consume victims partially or entirely (e.g. [Goodall 1986; Blumstein 2000]). Instead, hypotheses regarding the adaptive benefits of female infanticide have focused on how killings might facilitate access to resources that are critical to successful reproduction (H2: ‘resource competition’ hypotheses) [Digby 2000]. Female killers might be defending access to an exclusive territory or shelter, or attempting to expand their breeding space when they target victims outside their home-range (H2.1: ‘breeding space’ hypothesis) (as in black-tailed prairie dogs [Hoogland 1985] or Belding’s ground squirrels [Sherman 1981]). In species where females only associate temporally to breed, killers may defend access to their own

milk, by discouraging attempts to suckle from unrelated juveniles (H2.2: ‘milk competition hypothesis’) (as in Northern elephant seals: [Le Boeuf et al. 1973]). In species who breed cooperatively, killers may defend access to extra offspring care by group mates other than the mother by altering the helper-to-pup ratio in their own group (H2.3: ‘allocare’ hypothesis) (as in meerkats [Clutton-Brock et al. 2001; Young et al. 2006], banded mongooses [Gilchrist 2006; Cant et al. 2014], or marmoset [Digby 1995]). Finally, in species who live in stable groups, killers may defend their offspring’s future social status (in species with stable hierarchies) or group membership (in species with forcible evictions) by eliminating future rivals (H2.4: ‘social status’ hypothesis) (as in some Old World primates [Hrdy 1976; Digby 2000]). Finally, it is unclear whether females might refrain from committing infanticide when this is likely to lead to indirect fitness costs. If so, they might be less likely to commit infanticide in species where most interacting females are related, or they might be able to target unrelated offspring exclusively. Alternatively, the benefits of competition in any or all these circumstances might be high enough to outweigh any potential indirect fitness costs.

Here, we present an investigation of the distribution and circumstances of infanticide by female mammals, based on data from 289 species from across 14 different Orders collected from the primary literature. The combination of a quantitative synthesis of the taxonomic distribution of infanticide with a qualitative analysis of the circumstances of infanticidal attacks (including traits of the killer and victim) can contribute to reveal the ecological, life-history or social determinants of female reproductive competition across mammalian societies, and their relevance to the occurrence of female associations and interactions within and among matrilineal groups. Our aim is to provide a starting point for the investigation of the likely causes and situations under which female infanticide occurs, bearing in mind that our

analytical framework suffers from several caveats. First, infanticide is uncommon and difficult to observe, so that some species might wrongly be classified as ‘non-infanticidal’. Second, the analyses rely on a rough categorization of the circumstances of infanticide and may oversimplify its determinants, which could be influenced by multiple factors in a given species. We first summarize the social organisation and life-histories of species in which infanticide by females has been observed, in order to evaluate the conditions under which infanticide is most common (Table 1). In particular, we investigate whether philopatry and average relatedness among groups of interacting females reduce the occurrence of female infanticide. Next, we perform specific phylogenetic analyses to test core predictions generated by each hypothesis and assess whether females have been observed to commit infanticide in species in which they are most likely to benefit from such killings. In addition, we investigate whether population-level information on the traits of killers and victims are compatible with predictions generated by each hypothesis. All our predictions and tests are summarized in Table 2. We first show that, across all species, the distribution and occurrence of infanticide by females is better explained by resource competition than by exploitation. We next test support for each for the four resource-competition hypotheses. We assess whether (i) instances where females kill offspring in neighbouring ranges (‘breeding space hypothesis’) are most likely explained by competition over breeding space; whether (ii) instances where females kill offspring born in the same breeding association by competition over milk (‘milk competition hypothesis’); whether (iii) instances where females kill offspring in groups where usually only a single female reproduces by competition over offspring care (‘allocare hypothesis’); and whether (iv) instances where females kill offspring born in groups with multiple breeders by competition over social status or group membership (‘social status hypothesis’).

Materials & Methods

Following Digby [2000], we use a broad definition of infanticide as an act by one or more non-parents that makes a direct or significant contribution to the immediate or imminent death of conspecific young. This definition excludes instances where mothers kill their own offspring (which are considered to result from parent-offspring conflict [O'Connor 1978] rather than from intrasexual competition) and includes cases where infants die as the result of the physical aggression (direct infanticide) as well as cases where the enforced neglect of an infant, such as kidnapping, ultimately causes death (indirect infanticide). Although the latter cases are often excluded from studies of infanticide due to their proximate form of 'overzealous' allomaternal care [Hrdy 1976], their ultimate consequence - infant death - contributes to shape their evolution as infanticidal behaviour. We included infanticide records from both wild and captive populations for which the killer was unambiguously identified as an adult female. For each species, we recorded whether observations occurred in a captive setting or under natural conditions. Species for which no case of infanticide has ever been observed were included only if detailed observations on individual females and juveniles were available, either from repeated captive observations or from field studies occurring across at least three reproductive seasons, to minimize the risk of misclassifying them as "non-infanticidal". Given that infanticide is difficult to observe, we focused on studies that were performed in circumstances under which it could be expressed and detected (co-housing of multiple females; detailed observations on specific females from before birth until weaning) or on studies that followed the fate of one or more offspring cohort(s) and recorded the causes of juvenile mortality. Data were collected from searches through the scientific literature, starting with major reviews on the topic of female infanticide [Wasser & Barash 1983; Agrell et al. 1998; Ebensperger 1998; Blumstein 2000; Digby 2000; Ebensperger & Blumstein 2007;

Stockley & Bro-Jorgensen 2011; Clutton-Brock & Huchard 2013] and performing backward and forward citation searches to identify relevant observations. While we might not have included all species in which the status of infanticide by females is documented (i.e., known to be either absent or present), we believe that this search strategy should not lead to systematic biases with regards to the tested hypotheses. We repeated all analyses excluding the 42 species for which we only found observations in captive settings (27 species with and 15 species without female infanticide), which did not change any of the results.

For the comparative analyses, we extracted data for each species on variables linked to the four different hypotheses (see Table 2). From published databases, we obtained information on: social organisation (classified as: solitary breeders [breeding females have exclusive ranges in which they do not tolerate any other breeding individual], pair breeders [home-ranges contain a single breeding female and a single breeding male but may contain additional non-breeding individuals], associated breeders [females share the same space for breeding but associations are unstable and tend not to last beyond the breeding season], or social breeders [several breeding females share the same home-range across multiple breeding seasons]) [Lukas & Clutton-Brock 2017]; female philopatry and dispersal (whether most breeding females have been born in their current locality/group or elsewhere) [Lukas & Clutton-Brock 2011]; carnivory (whether the diet of a species includes meat or not) [Wilman et al. 2014]; infanticide by males (whether males have been observed to kill conspecific young) [Lukas & Huchard 2014]; environmental climatic harshness (a principal component, with high values indicating that rainfall is low and temperatures are cold and unpredictable across the known range of a species) [Botero et al. 2014]; maternal investment (mean body size of offspring at weaning multiplied by the mean number of offspring per year, divided by mean body mass of

adult females) [Sibly et al. 2014]; the use of burrows or nest holes for breeding (information was taken from the papers used to extract information on the absence or presence of infanticide by females); litter size (number of offspring per birth); offspring mass at birth (grams); weaning age (age at which offspring are independent, in days); inter-birth interval (time between consecutive births, in days) [Jones et al. 2009]; energetic value of milk (MJ/ml based on the protein, sugar, and fat composition) [Langer 2008; Barton & Capellini 2011; Hinder & Milligan 2011]; offspring care by fathers and/or non-parental group members (whether offspring receive milk or food from or are being regularly carried by group members who are not the mother) [Lukas & Clutton-Brock 2017]. In addition, we completed information obtained from these databases by collecting extra data from the primary literature on dominance hierarchies and mechanisms of rank acquisition in social groups (whether all adult females can be arranged in a dominance hierarchy and if so, whether an individual's rank is influenced by age and/or nepotism); and forcible evictions (whether females use aggression to exclude other females from their own social group). For each species in which females had been observed to kill conspecific young, we used the primary literature to record as much information as possible regarding the characteristics of the killer (age and reproductive state) and of the victim (age, sex, and relatedness to killer) to test specific predictions. The full dataset is provided in Supplementary Table 1 (comparative data) and Supplementary Table 2 (individual characteristics data), with all references for data specifically collected here in Supplementary File 1.

In addition to performing comparisons assessing contrasts in the presence or absence of infanticide across all species in our sample, we classified species into different types according to each of the four resource competition hypotheses (Table 2). This classification also aimed

at controlling for a potential confounding effect of social organization, as our analysis might otherwise detect factors associated with the evolution of sociality if females are more likely to have been observed to commit infanticide in some social systems. For the breeding space hypothesis, we only included instances of infanticide in which females did not share a home-range with the mother of the victims; for the milk competition hypothesis, we restricted the sample to associated breeders; for the allocare hypothesis, we only included pair; and for the social competition hypothesis, we only looked at social.

For the comparative analyses, the phylogenetic relatedness between species was inferred from the updated mammalian supertree [Rolland et al. 2014]. We fitted separate phylogenetic models using MCMCglmm [Hadfield & Nakagawa 2010] to identify the extent to which each of the predicted variables (Table 2) explains the presence of infanticide by females across species (binary response, assuming a categorical family of trait distribution). Following the recommendations of Hadfield [2010], we set the priors using an uninformative distribution (with variance, V , set to 0.5 and belief parameter, ν , set to 0.002). Each model was run three times for 100,000 iterations with a burn-in of 20,000, visually checked for convergence and for agreement between separate runs.

Results

Social organisation and infanticide by females

Infanticide by females has been observed in 89 (31%) of the 289 mammalian species in our sample (Table 1). Female infanticide (of any type) varies with the social organisation and is more frequent when females breed in groups (Figure 1): it has been observed in 43% of associated breeders, in 36% of pair breeders, and in 30% of social breeders, but only in 18% of solitary breeders. Across all species, females are equally likely to kill offspring when they are philopatric (47 of 135 species, 34%) than when they disperse to breed (17 of 59 species, 29%) (effect of female dispersal on presence of infanticide by females: -10.1, 95% CI -39.3 – 11.3, $p=0.34$) but there are differences for two types of social organisation: across associated breeders infanticide only occurs in philopatric species; while across pair breeders infanticide is more likely to occur in species in which females disperse (Table 1). Across all group-living species (associated breeders, pair breeders with helpers, social breeders), there is no relationship between levels of average relatedness among female group members and whether infanticide by females of offspring born in the same group does (median levels of average relatedness across 10 species 0.09, range 0.01-0.38) or does not occur (median levels of average relatedness across 24 species 0.21, range -0.03-0.52) (effect of levels of average relatedness on presence of infanticide by females: -21.1, 95% CI -81.4 – 10.1, $p=0.18$). Across species in which groups are stable (i.e., excluding associated breeders where groups are sometimes difficult to define and can be very large), levels of average relatedness are slightly higher when infanticide occurs (see also [Lukas & Clutton-Brock 2018]). The population-level information show instances of killers being close kin of the victim in 33% of species (22/65), with either grandmothers killing their grandchildren or aunts killing their nieces, with kin being

common victims in cooperative breeders (8 of 12 cooperative breeders) but also in several social breeders (14 of 51 social breeders).

Life-histories and infanticide by females

Energetic investment into reproduction by mothers is higher in species with any form of infanticide by females compared to the remaining species (Table 1). However, these patterns encountered across all species do not reflect a general association between infanticide and all these traits, but rather the fact that each different scenario of infanticide is associated with specific life histories, with species having either larger offspring mass at birth, shorter time to weaning and between births, and/or larger litter sizes. Females in infanticidal species where there is usually a single breeding female per home range (extraterritorial infanticide and infanticide in pair breeders) have larger litters than females in species without infanticide (Table 1). Species in which females kill offspring in a breeding association are characterized by fast-growing offspring, while offspring are relatively small at birth in species in which females kill offspring in stable groups (Table 1).

Figure 1: The distribution of the different forms of infanticide by females in relation to the social organisation across the mammalian species in our sample (for picture credit see Supplementary File 2).

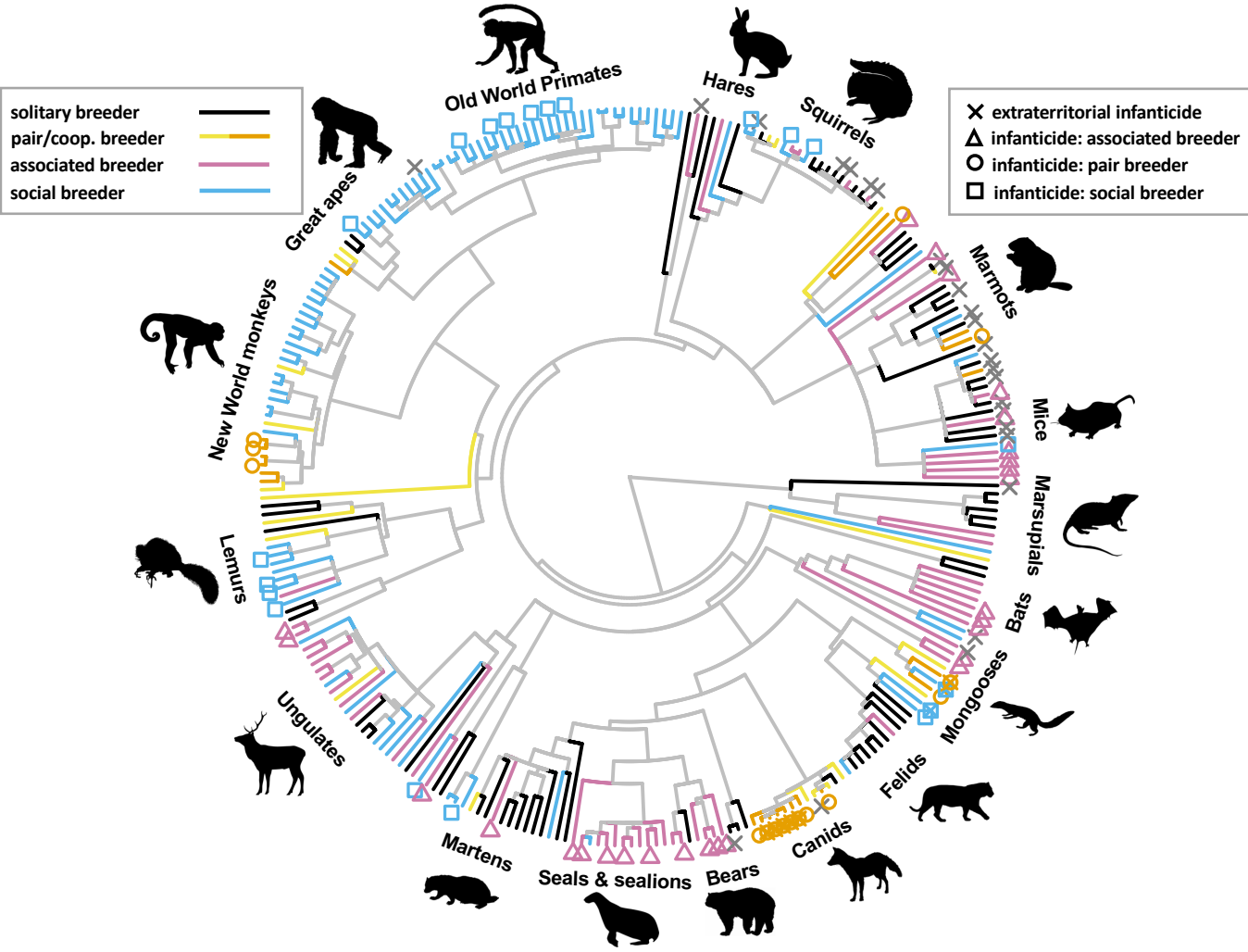


Table 1: The social and life-history conditions associated with the distribution of infanticide by females

Females are more likely to commit infanticide in group-living species, but whether breeding females are philopatric or disperse does not appear to be associated with the distribution of infanticide. In general, species with infanticide by females are characterized by high maternal investment, which is either expressed as females having large litters, short lactational and interbirth periods, and/or relatively large offspring.

Sample of species	all		all		associated breeders		pair breeders		social breeders	
Type of infanticide	any		extraterritorial		within-group		within-group		within-group	
Infanticide is	absent	present	absent	present	absent	present	absent	present	absent	present
Sample size	200	89	253	33	34	19	29	16	92	20
Females solitary (% species)	38%	16%	39%	76%	NA	NA	NA	NA	NA	NA
Female philopatric (% species)	73%	68%	70%	70%	65%	100%	48%	31%	64%	63%
Maternal investment (per year relative to bodyweight)	39%	118%	47%	150%	48%	86%	110%	169%	29%	45%
Litter size	1.6	2.6	1.7	3.9	1.5	2.1	1.9	4	1.3	1.3
Interbirth interval (days)	365	180	340	104	308	212	308	181	453	522
Age at weaning (days)	127	61	113	35	107	59	105	42	229	273
Offspring weight (relative to bodyweight)	3.6%	3.9%	3.9%	2.8%	3.5%	5.9%	5.1%	2.8%	5.1%	3.0%

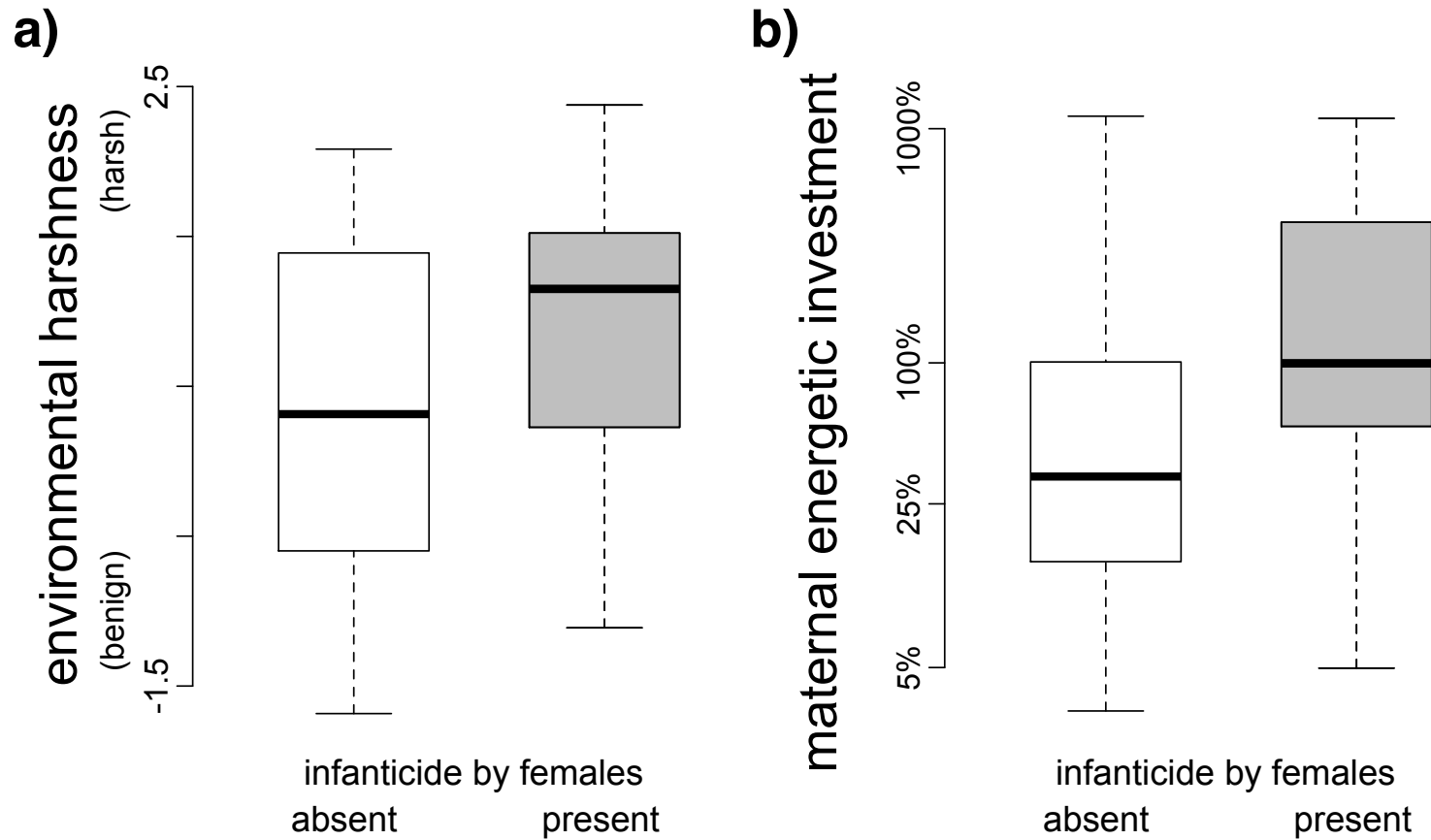
Table 2: Testing the core predictions generated by the different hypotheses proposed to explain the distribution of infanticide by females

For each of the main hypotheses, we tested two core predictions in phylogenetic comparisons and two predictions about the individual traits from the field observations. For the comparisons, we list the sample of species included.

Hypothesis	Type of infanticide / Sample of species	Core prediction(s)	Support?	Predictions of individuals' characteristics	Support?
H1: exploitation	<i>any form of infanticide</i>	- primarily in carnivores	No	- killer: any reproductive state	No
	<i>across all species</i>	- infanticide also by males	No	- victim: any age	No
H2: resource competition	<i>any form of infanticide</i>	- harsher environments	Yes	- killer: gestating/lactating	Yes
	<i>across all species</i>	- higher maternal investment	Yes	- victim: dependent on care	Yes
H2.1: over breeding space	<i>extraterritorial infanticide</i>	- more burrow use	Yes	- killer: gestating/lactating	Yes
	<i>across all species</i>	- exclusive home-ranges	Yes	- victim: unweaned	Yes
H2.2: over milk	<i>within group infanticide</i>	- higher energetic milk content	No	- killer: lactating	Yes
	<i>across associated breeders</i>	- faster offspring growth	No	- victim: attempting to nurse	Yes
H2.3: over allomaternal care	<i>within group infanticide</i>	- allocarers present	Yes	- killer: gestating/lactating	Yes
	<i>across pair breeders</i>	- more helpers/competitors present	Yes	- victim: dependent on care	Yes
H2.4: over social status	<i>within group infanticide</i>	- nepotistic hierarchy present	Yes	- killer: high social rank	Yes
	<i>across social breeders</i>	- evictions occur	Yes	- victim: any age	Yes

Figure 2: Factors associated with female competition and the distribution of infanticide by females

Species in which female infanticide is present are, on average, characterized by (a) living in harsher environments (lower and more unpredictable rainfall and temperatures) and by (b) higher maternal energetic investment (total mass of weaned offspring produced per year relative to maternal mass). Black lines indicate the median across the species in the sample, boxes contain 75% of the values, and whiskers extend to the extremes.



H1: Exploitation

We find no support for predictions suggesting that females kill conspecific offspring primarily for exploitation (Table 2). Across species, infanticide by females is as likely to occur in the absence of infanticide by males (44 of 147 species, 30%) as in its presence (43 of 135 species, 32%) (effect of presence of male infanticide on presence of female infanticide 2.1, 95% CI -13.5 – 16.9, $p=0.74$). Similarly, carnivorous species are not more likely to show infanticide by females (18 of 56 species, 32%) than species in which meat does not constitute an important part of the diet (59 of 192 species, 31%) (effect of carnivory on presence of female infanticide -0.7, 95% CI -11.2 – 10.0, $p=0.89$). The age of victims varies from birth to beyond independence across species, but is more homogeneous within each type of infanticide (see below), so that killings do not appear simply opportunistic.

H2: Resource competition

Infanticide by females appears more likely to occur where competition over resources is expected to be more intense (Table 2). The climatic environments of species in which females commit infanticide are harsher (as estimated by a principal component reflecting low unpredictable rainfall and cold seasons) than the environments of species in which infanticide has not been observed (effect of environmental harshness on presence of female infanticide 7.0, 95% CI -0.2 – 14.7, $p=0.03$, 54 species with infanticide and 193 without) (Figure 2a). In species where females commit infanticide, they invest substantially more energy into the production of offspring, being able to produce the equivalent of 1.0 times their own body mass in offspring mass per year (number of offspring times mass of weaned offspring; median across 41 species, range 0.05 – 12.1 times) compared to 0.33 times in species in which infanticide has not been observed (median across 77 species, range 0.03 – 11.1) (effect of

maternal energetic investment on presence of female infanticide 25.8, 95% CI 1.5 – 58.7, $p < 0.001$) (Figure 2b).

H2.1: Competition over breeding space

Thirty-two of the 33 species in which females kill juveniles outside their own home-range keep their offspring in burrows or holes, compared to 93 of the 163 species in which infanticide by females appears absent (effect of burrow use on the presence of infanticide by females 14.4, 95% CI 6.0 – 22.9, $p < 0.001$). The exception is *Semnopithecus entellus*, where “females occasionally steal infants from a neighboring troop” [Hrady 1976; Mohnot 1980]. In most species in which females kill offspring in neighbouring home-ranges (25 of 33), females generally appear not to tolerate other breeding females close by and most home-ranges only contain a single breeding female (solitary or cooperatively breeding species), while in most other species females form associations or groups (home-ranges contain a single breeding female in 105 out of 268 species) (effect of presence of a single breeding female per home-range on presence of infanticide by females 12.4, 95% CI 0.3 – 30.1, $p = 0.007$). In all cases, the killer was either pregnant or had dependent young of her own (17 species with observations), and all offspring that were killed were not yet weaned (17 species).

H2.2: Competition over milk

Across associated breeders, the energy content of milk produced by mothers in species in which females have been observed to kill offspring within the same breeding space (2.8 MJ/100ml, median across 8 species, range 1.2-4.7) does not differ from that of species in which such killings have not been observed (2.1 MJ/100ml, median across 7 species, range 0.8-5.7) (mean effect of milk energy on presence of infanticide by females 2.0, 95% CI -66.3 –

83.1, $p=0.97$). In associated breeders with female infanticide, offspring do not seem to have greater growth rates (they gain on average 0.28% of their adult body mass per day until weaning, median across 9 species, range 0.04% - 1.72%) than in species in which females have not been observed to kill juveniles (offspring gain on average 0.17% of their adult body mass per day until weaning, median across 11 species, range 0.05% - 0.73%) (effect of presence of infanticide by females on offspring growth rate 6.1, 95% CI -16.2 – 35.4, $p=0.59$). Killers are either pregnant or have dependent young (21 out of 21 species) and are old, with most reports suggesting that they had been observed to give birth in previous years (they are not primiparous). All victims were reported to be unweaned (22 out of 22 species). In 7 out of 14 infanticide reports from associated breeders, victims were killed as they attempted to suckle from the killer.

H2.3 Competition over allomaternal care

Infanticide by females in pair breeders occurs only when fathers provide care (all 16 species) while fathers care for offspring in only 16 of the 39 pair breeding species in which this form of infanticide is absent. In 15 of the 16 pair breeders with female infanticide, additional helpers are present (cooperative breeders), while there are only a further 7 cooperatively breeding species in which females have not been observed to kill juveniles from their own group (female infanticide occurs in 68% [15/22] of cooperative breeders versus in 4% [1/23] of pair breeders in which there are no other helpers). Across species in which offspring receive allocares, the number of potential allocarers is higher in species with, compared to species without female infanticide (infanticide present: 3 allocarers per group, median across 15 species, range 2-23; infanticide absent: 2 allocarers per group, median across 13 species, range 1-20; effect of number of allocarers on presence of infanticide 25.3, 95% CI 1.9 – 48.6,

$p=0.02$). The killer was usually the dominant breeder (as was regularly the case in 9 of 12 species) and was pregnant or with dependent infants in all cases. In most instances the killer and the victim belonged to the same group (11 of 14 species), and were consequently related (10 out of 13 species). Victims were often a few days old and all dependent.

H2.4: Competition over social status

Of the 27 social breeders with female philopatry (and available data), female group members do not form social hierarchies in three species, hierarchical rank is determined by age in five species, and rank is influenced by nepotism in 19 species. Females have been observed to kill offspring born to other group members in eight of these latter 19 species, but in none of the species where nepotism does not influence female rank (effect of presence of nepotistic rank acquisition on presence of infanticide by females 134.1, 95% CI 28.8 – 238.1, $p<0.001$). Females are more likely to kill offspring born to other females in social breeders in which they also aggressively evict other females from their group (infanticide has been observed in 6 of 10 species with evictions and 7 of 35 without evictions) (effect of occurrence of evictions on presence of infanticide by females 7.8, 95% CI -0.2 – 14.4, $p=0.02$). In all twelve social breeders in which infanticide events have been observed, killers were old and high-ranking. Killers were never pregnant, but in all cases had dependent young of their own. Victims were not yet weaned, and victims might be related to the killer in 5 out of 12 species. There is only one species where the data suggest that females might preferentially kill offspring of one sex: in *Macaca radiata* (a species with female philopatry), female offspring appear to be the predominant victims.

Discussion

Our findings establish that female infanticide is widespread across mammals and that it is frequently expressed as intensely as competition among males. Females have been observed to kill conspecific juveniles in various species and our comparative analyses provide support to the idea that this behaviour may be adaptive under a wide range of circumstances. Infanticide is more likely to occur in species in which multiple adult females live or breed together than where females breed solitarily, and infanticide appears most frequent in species where females only associate temporarily to breed. Since infanticidal behaviour is relatively rare and may be difficult to detect, this association may reflect the fact that opportunities to commit and to observe infanticides may be greater where females live or breed together. Within each type of social organisation, we do however find that females, like males, appear to commit infanticide when the presence of the victim might otherwise limit their own reproductive success. While infanticide by males has evolved primarily in response to mate competition across mammals [Lukas & Huchard 2014; Palombit 2015], the evolutionary determinants of infanticide by females are apparently more complex, as females may compete over multiple resources.

Several lines of evidence indicate that female infanticide is adaptive, with females killing conspecific offspring in response to competition over resources that are critical for successful reproduction. First, infanticide appears associated with variation in ecology and life-history. Specifically, it is most frequently observed in species facing harsh climatic conditions and making the greatest reproductive efforts; it is unlikely that such associations are due to variations in opportunities to observe or commit infanticides across species. Rather, the

potential costs of sharing critical resources might outweigh the risks associated with committing infanticide in such circumstances.

Second, specific determinants of female infanticide identified at the population level by field studies also seem to predict its distribution across species. Extraterritorial infanticides were found to be most frequent in solitary species where females use burrows to give birth and territories to raise offspring, allowing killers to free-up reproductive space for their own offspring. Anecdotal reports suggest that mothers of victims in these species frequently move away after the loss of their offspring [Sherman 1981]. The strong association with burrow use might occur because burrows represent a clear defensible resource, because offspring kept in burrows tend to be altricial [Kappeler 1991] and unable to flee or defend themselves, or because infanticide is more easily observed if researchers know where offspring are. Our findings further show that female infanticide occurs in pair breeders where helpers – fathers or additional group mates – are present. A lower number of helpers per offspring reduces their weight and their chances to survive at independence, such that females might even kill offspring born to close kin, such as their grandchildren [Clutton-Brock et al. 2001; Hodge et al. 2008]. Finally, patterns are slightly more complex in social breeders. There, infanticide preferentially occurs in species where aggressive competition among females leads to the eviction of some individuals – generally young adults - from the group, especially at times when group size increases (e.g. [Kappeler & Fichtel 2012]). In such cases, killing unrelated juveniles may limit future competition and the related risk of being evicted for the killer's offspring. In addition, in social breeders where females are philopatric, infanticide was only found to occur where female rank acquisition is nepotistic, a hierarchical system where each

additional offspring may contribute to strengthen the social status of a matriline – and where infanticide may consequently weaken competing matrilines on the long term.

Anecdotal reports of female pinnipeds killing orphans as they attempted to suckle from them inspired the hypothesis that females compete over milk in species where they only associate to breed [Digby 2000]. While our comparative analyses did not reveal any difference in the energy content of milk of associated breeders in which infanticide is present versus absent, associated breeders nevertheless comprise the species with the highest energy content of milk and the fastest growth rates, and we further found that offspring are larger at birth and weaned at an earlier age in associated breeders with infanticide compared to those without it. The lack of support for the milk competition hypothesis in our analyses may be explained by a noisy dataset, where the absence of infanticide in some species may be due to the fact that it goes undetected if it is hard to observe, or to the evolution of counter-adaptations that protect offspring against infanticide. Alternatively, milk is not the only resource over which these females compete. For example, in the large breeding colonies of pinnipeds, space is sometimes very restricted [Baldi et al. 1996], especially in the immediate vicinity of the harem leaders. These bulls often protect their females and calves from attacks by younger males, and may represent another source of competition for lactating females.

It is likely that, in any given species, infanticide may be triggered by more than one determinant - including some that may not be considered here. A killer may accordingly get multiple benefits from one infanticide event, but may also commit infanticides in more than one context. For example, half of the species of pair breeders committing intra-group infanticides also commit extraterritorial infanticides. It is therefore possible that different

types of female infanticide – following our classification - have followed a common evolutionary path. Specifically, it is possible that infanticidal behaviour initially emerged in response to one particular pressure (e.g., competition over access to allocare) in a given species, which subsequently started to express it in other competitive contexts (e.g., competition over breeding territories). However, the limited number of species for which observational data on infanticide are available, as well as heterogeneities in the sample – such as an over-representation of group-living species – introduce uncertainty when attempting to reconstruct the evolutionary history of the trait. It is consequently hard to infer the ancestral state, whether each infanticide type has evolved independently, or how many times infanticidal behaviour has emerged across mammals. Similar difficulties limit causal inferences regarding the association between infanticide and social organization. In some lineages the risk of infanticide might prevent breeding females from forming groups, while in others the evolution of infanticide might be favoured by the constraints or opportunities of a specific social system, in line with patterns observed in males [Lukas & Huchard, 2014].

In addition to the nature of the resources that may directly limit female reproductive success in various types of social organisations [Cavigelli et al. 2003, Saltzman et al. 2009, Rosvall 2011], contrasts in the occurrence of infanticide across species reveal other broad patterns on female reproductive competition in mammals. In particular, the lack of association between female infanticide and philopatry across species (Table 1), as well as a synthesis of observations revealing that killers and victims are commonly related in some contexts, such as in pair breeders where reproductive suppression is common [Lukas & Clutton-Brock 2018], suggest that matrilineality and subsequent increases in average kinship among associated females does not necessarily lead to a reduction in competition among females. Some

previous work suggested that mammalian females might be predisposed to behave positively and cooperatively with kin [di Fiore & Rendall 1994], such that species with female philopatry would be characterized by stable social bonds [Silk 2007]. However, the factors leading to limited dispersal and the spatial association of kin frequently also result in high local competition [Frank 1998] which can overcome the potential benefits of cooperation among kin [West et al. 2002]. Studies of competition among males in such circumstances have shown that contrasts in levels of aggression can be explained by variation in the potential direct fitness benefits of winning [West et al. 2001], and it is likely that this also applies to the observed pattern of infanticide by females – where the direct benefits of infanticide in terms of increased access to a critical resource might outweigh its costs, including the indirect fitness costs associated with killing related juveniles.

Our study compiles five decades of behavioural data across species and within populations to elucidate the determinants of infanticide by mammalian females, which are less well understood than those of male infanticide. Our analyses suggest that the distribution of female infanticide across species reflects contrasts in social organisation; infanticide is most frequent in species that breed in groups, which probably have more opportunities for killings and also face greater breeding competition. Female infanticide occurs where the proximity of conspecific offspring directly threatens the killer's reproductive success by limiting access to critical resources for her dependent progeny, including food, shelters, care or a social position. Finally, these data support the idea that female killers occasionally sacrifice related juvenile conspecifics, and may therefore actively harm their indirect fitness in order to maximize their direct fitness.

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Data Accessibility

All data are provided in the supplementary material and are deposited at the Knowledge Network for Biocomplexity doi:10.5063/F1ZG6QFR.

Authors' Contributions

Both authors contributed to the conception and design of the study, collected and interpreted the data, wrote the article, and gave final approval; the analyses were done by DL with input from EH.

Competing Interests

We have no competing interests.

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Supplementary Material

This submission includes all data in Supplementary Tables 1 (comparative data) and 2 (population observations), with references for observations on infanticide by females in Supplementary File 1, and credits for the animal drawings used in Figure 1 in Supplementary File 2.

References

1. Clutton-Brock T. 2007 Sexual Selection in Males and Females. *Science* **318**, 1882–1885. (doi:10.1126/science.1133311)
2. Clutton-Brock T, Huchard E. 2013 Social competition and its consequences in female mammals. *J. Zool.* **289**, 151–171. (doi:10.1111/jzo.12023)
3. Clutton-Brock TH, Huchard E. 2013 Social competition and selection in males and females. *Philos. Trans. R. Soc. B Biol. Sci.* **368**. (doi:10.1098/rstb.2013.0074)
4. Stockley P, Bro-Jørgensen J. 2011 Female competition and its evolutionary consequences in mammals. *Biol. Rev. Camb. Philos. Soc.* **86**, 341–366. (doi:10.1111/j.1469-185X.2010.00149.x)
5. Emlen ST, Oring LW. 1977 Ecology, sexual selection, and the evolution of mating systems. *Science* **197**, 215-223. (doi: 10.1126/science.327542)
6. Connor RC, Krützen M. 2015 Male dolphin alliances in Shark Bay: changing perspectives in a 30-year study. *Anim. Behav.* **103**, 223-235. (doi:10.1016/j.anbehav.2015.02.019)
7. Gowaty, P. A. (2004). Sex roles, contests for the control of reproduction, and sexual selection. *Sexual selection in primates: New and comparative perspectives*, 37-54.
8. Clutton-Brock TH. 2016 *Mammalian Societies*. New York: Wiley and Sons.
9. Young AJ, Clutton-Brock T. 2006 Infanticide by subordinates influences reproductive sharing in cooperatively breeding meerkats. *Biol. Lett.* **2**, 385–387. (doi:10.1098/rsbl.2006.0463)
10. Clutton-Brock TH *et al.* 2001 Cooperation, Control, and Concession in Meerkat Groups. *Science* **291**, 478–481. (doi:10.1126/science.291.5503.478)
11. Palombit R. 2012 Infanticide: male strategies and female counter-strategies. In *The Evolution of Primate Societies*, pp. 432–468. Chicago: Mitani JC, Call J, Kappeler PM, Palombit RA, Silk JB.
12. Hrdy, S.B., 1974. Male-male competition and infanticide among the langurs (*Presbytis entellus*) of Abu, Rajasthan. *Folia primatologica*, 22(1), pp.19-58.

13. van Schaik CP, Janson CH. 2000 *Infanticide by Males and Its Implications*. Cambridge University Press.
14. Lukas D, Huchard E. 2014 The evolution of infanticide by males in mammalian societies. *Science* **346**, 841–844. (doi:10.1126/science.1257226)
15. Palombit RA. 2015 Infanticide as Sexual Conflict: Coevolution of Male Strategies and Female Counterstrategies. *Cold Spring Harb. Perspect. Biol.* **7**. (doi:10.1101/cshperspect.a017640)
16. Hrdy SB 1979 Infanticide among Animals: A Review, Classification, and Examination of the Implications for the Reproductive Strategies of Females. *Ethol. Sociobiol.* **1**, 13–40. (doi:10.1016/0162-3095(79)90004-9)
17. Hrdy SB. 1976 Care and Exploitation of Nonhuman Primate Infants by Conspecifics Other Than the Mother. In *Advances in the Study of Behavior* (eds JS Rosenblatt, RA Hinde, E Shaw, C Beer), pp. 101–158. Academic Press. (doi:10.1016/S0065-3454(08)60083-2)
18. Digby L. 2000 Infanticide by female mammals: implications for the evolution of social systems. In *Infanticide by males and its implications*, van Schaik CP and Janson CH.
19. Blumstein D. 2000 The evolution of infanticide in rodents: a comparative analysis. pp. 178–198. Cambridge: van Schaik CP and Janson CH.
20. Agrell J, Wolff JO, Ylönen H. 1998 Counter-Strategies to Infanticide in Mammals: Costs and Consequences. *Oikos* **83**, 507–517. (doi:10.2307/3546678)
21. Kleiman DG, Malcolm J. 1981 The Evolution of Male Parental Investment in Mammals. In *Parental care in mammals*, Gübernack DJ; Klopfer PH.
22. Goodall J. 1986 *The chimpanzees of Gombe: patterns of behavior*. Belknap Press of Harvard University Press.
23. Hoogland JL. 1985 Infanticide in prairie dogs: lactating females kill offspring of close kin. *Science* **230**, 1037–1040. (doi:10.1126/science.230.4729.1037)
24. Sherman P. 1981 Reproductive competition and infanticide in Belding's ground squirrels and other animals. In *Natural and Social Behavior: Recent Research and New Theory*, Alexander RD, Tinkle DW.
25. Le Boeuf BJ, Whiting RJ, Gantt RF. 1973 Perinatal Behavior of Northern Elephant Seal Females and Their Young. *Behaviour* **43**, 121–156. (doi:10.1163/156853973X00508)
26. Gilchrist JS. 2006 Female eviction, abortion, and infanticide in banded mongooses (*Mungos mungo*): implications for social control of reproduction and synchronized parturition. *Behav. Ecol.* **17**, 664–669. (doi:10.1093/beheco/ark012)
27. Cant MA, Nichols HJ, Johnstone RA, Hodge SJ. 2014 Policing of reproduction by hidden threats in a cooperative mammal. *Proc. Natl. Acad. Sci.* **111**, 326–330. (doi:10.1073/pnas.1312626111)
28. Digby L. 1995 Infant care, infanticide, and female reproductive strategies in polygynous groups of common marmosets (*Callithrix jacchus*). *Behav. Ecol. Sociobiol.* **37**, 51–61. (doi:10.1007/BF00173899)

29. O'Connor, Raymond J. "Brood reduction in birds: selection for fratricide, infanticide and suicide?." *Animal Behaviour* 26 (1978): 79-96.
30. Wasser SK, & Barash DP. 1983 Reproductive suppression among female mammals: implications for biomedicine and sexual selection theory. *Quart. Rev. Biol.* **58**, 513-538. (doi: 10.1086/413545)
31. Agrell J, Wolff JO & Ylönen H. 1998 Counter-strategies to infanticide in mammals: costs and consequences. *Oikos* **83**, 507-517. (doi: 10.2307/3546678)
32. Ebensperger LA. 1998 Strategies and counterstrategies to infanticide in mammals. *Biol. Rev.* **73**, 321-346.
33. Ebensperger LA & Blumstein DT. 2007 Nonparental infanticide. In: *Rodent societies: an ecological and evolutionary perspective* (eds. JO Wolff & P Sherman), pp. 267-279. University of Chicago Press, Chicago.
34. Lukas D, Clutton-Brock T. 2017 Climate and the distribution of cooperative breeding in mammals. *R. Soc. Open Sci.* **4**, 160897. (doi:10.1098/rsos.160897)
35. Lukas D, Clutton-Brock TH. 2011 Group structure, kinship, inbreeding risk and habitual female dispersal in plural-breeding mammals. *J. Evol. Biol.* **24**, 2624–2630. (doi:10.1111/j.1420-9101.2011.02385.x)
36. Wilman H, Belmaker J, Simpson J, de la Rosa C, Rivadeneira, MM, Jetz W. 2014 EltonTraits 1.0: Species-level foraging attributes of the world's birds and mammals. Ecological Archives E095-178. *Ecology* **95**, 2027-2027. (doi: 10.1890/13-1917.1)
37. Botero CA, Dor R, McCain CM, Safran RJ. 2014 Environmental harshness is positively correlated with intraspecific divergence in mammals and birds. *Mol. Ecol.* **23**, 259–268. (doi:10.1111/mec.12572)
38. Sibly RM, Grady JM, Venditti C, Brown JH. 2014 How body mass and lifestyle affect juvenile biomass production in placental mammals. *Proc. Roy. Soc. B* **281**, 20132818. (doi: 10.1098/rspb.2013.2818)
39. Jones KE *et al.* 2009 PanTHERIA: a species-level database of life history, ecology, and geography of extant and recently extinct mammals. *Ecology* **90**, 2648–2648. (doi:10.1890/08-1494.1)
40. Langer P. 2008 The phases of maternal investment in eutherian mammals. *Zoology* **111**, 148–162. (doi:10.1016/j.zool.2007.06.007)
41. Barton RA, Capellini I. 2011 Maternal investment, life histories, and the costs of brain growth in mammals. *Proc. Natl. Acad. Sci. U. S. A.* **108**, 6169–6174. (doi:10.1073/pnas.1019140108)
42. Hinde K, Milligan LA. 2011 Primate milk: proximate mechanisms and ultimate perspectives. *Evol. Anthropol.* **20**, 9–23. (doi:10.1002/evan.20289)
43. Rolland J, Condamine FL, Jiguet F, Morlon H. 2014 Faster Speciation and Reduced Extinction in the Tropics Contribute to the Mammalian Latitudinal Diversity Gradient. *PLOS Biol.* **12**, e1001775. (doi:10.1371/journal.pbio.1001775)

44. Hadfield JD, Nakagawa S. 2010 General quantitative genetic methods for comparative biology: phylogenies, taxonomies and multi-trait models for continuous and categorical characters. *J. Evol. Biol.* **23**, 494–508. (doi:10.1111/j.1420-9101.2009.01915.x)
45. Hadfield J. 2010 MCMCglmm: Markov chain Monte Carlo methods for generalized linear mixed models retrieved from cran.uvigo.es/web/packages/MCMCglmm/vignettes/Tutorial.pdf
46. Lukas D & Clutton-Brock T. 2018 Social complexity and kinship in animal societies. *Ecol. Lett.* **21**, 1129-1134. (doi: 10.1111/ele.13079)
47. Mohnot SM. 1980 Intergroup infant kidnapping in Hanuman langur. *Folia Primatol.* **34**, 259–277. (doi:10.1159/000155958)
48. Kappeler PM. 1998 Nests, tree holes, and the evolution of primate life histories. *Am. J. Primat.* **46**, 7-33.
49. Clutton-Brock, T. H., Russell, A. F., Sharpe, L. L., Brotherton, P. N. M., Mcllath, G. M., White, S., & Cameron, E. Z. (2001). Effects of helpers on juvenile development and survival in meerkats. *Science*, *293*(5539), 2446-2449.
50. Hodge, S. J., Manica, A., Flower, T. P., & Clutton-Brock, T. H. (2008). Determinants of reproductive success in dominant female meerkats. *J. Anim. Ecol.* *77*, 92-102.
51. Kappeler PM, Fichtel C. 2012 Female reproductive competition in Eulemur rufifrons: eviction and reproductive restraint in a plurally breeding Malagasy primate. *Mol. Ecol.* **21**, 685–698. (doi:10.1111/j.1365-294X.2011.05255.x)
52. Baldi R, Campagna C, Pedraza S, Le Boeuf BJ. 1996 Social effects of space availability on the breeding behaviour of elephant seals in Patagonia. *Anim. Behav.* **51**, 717–724. (doi:10.1006/anbe.1996.0075)
53. Cavigelli SA, Dubovick T, Levash W, Jolly A, Pitts A. 2003 Female dominance status and fecal corticoids in a cooperative breeder with low reproductive skew: ring-tailed lemurs (*Lemur catta*). *Horm. Behav.* **43**, 166-179.
54. Saltzman W, Digby LJ, Abbott DH. 2009 Reproductive skew in female common marmosets: what can proximate mechanisms tell us about ultimate causes? *Proc. Roy. Soc. B* **276**, 389-399.
55. Rosvall KA. 2011 Intrasexual competition in females: evidence for sexual selection?. *Behav. Ecol.* **22**, 1131-1140.
56. Di Fiore A, Rendall D. 1994 Evolution of social organization: a reappraisal for primates by using phylogenetic methods. *Proc. Natl. Acad. Sci. U. S. A.* **91**, 9941–9945. (doi:10.1073/pnas.91.21.9941)
57. Silk JB. 2007 Social Components of Fitness in Primate Groups. *Science* **317**, 1347–1351. (doi:10.1126/science.1140734)
58. Frank, SA. 1998 *Foundations of Social Evolution*. Princeton Univ. Press, Princeton.
59. West SA, Pen I, Griffin AS. 2002 Cooperation and competition between relatives. *Science* **296**, 72–75. (doi:10.1126/science.1065507)

60. West SA, Murray MG, Machado CA, Griffin AS, Herre EA. 2001 Testing Hamilton's rule with competition between relatives. *Nature* **409**, 510-513. (doi: 10.1038/35054057)

Supplementary File 1 for Lukas & Huchard: The evolution of infanticide by females in mammals

Parts A (citations for comparative data), B (citations for population data), and C (reference list).

A) Citations for new data in comparative analyses

The table lists the references with the observations on the presence or absence of infanticide by females for each species, and the references with details on the interactions among females in group-living species. All references are listed in full below the second table.

Species	Reference infanticide by females	Reference eviction/dominance hierarchy
<i>Acinonyx jubatus</i>	Hunter & Skinner, Transactions of the Royal Society of South Africa 56, 79 (2003).	NA
<i>Acomys cahirinus</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Acrobates pygmaeus</i>	Ward, Australian Journal of Zoology 38, 503 (1990).	NA
<i>Aepyceros melampus</i>	Averbeck, Doctoral dissertation, Technische Universität München (2002).	NA
<i>Aethomys namaquensis</i>	Fleming, African Zoology 39, 123 (2004).	NA
<i>Ailurus fulgens</i>	Glatston, Red panda: biology and conservation of the first panda. Andrew, Ed., Noyes Series in Animal Behavior, Ecology, Conservation and management (2010), pp. 488.	NA
<i>Alces alces</i>	Sæther et al., Wildlife Biology 10, 51 (2004).	NA
<i>Alouatta caraya</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Alouatta guariba</i>	Galetti et al., Neotropical Primates 2, 6 (1994).	Galetti et al., Neotropical Primates 2, 6 (1994).
<i>Alouatta palliata</i>	Ebensperger, Biological Reviews 73, 321 (1998).	Zucker & Clarke, International Journal of Primatology 19, 433 (1998).
<i>Alouatta pigra</i>	Treves et al., Ethology 109, 135 (2003); van Belle et al. Primates 51, 279 (2010).	NA
<i>Alouatta seniculus</i>	Ebensperger, Biological Reviews 73, 321 (1998).	Pope, Behavioral Ecology and Sociobiology 48, 253 (2000)
<i>Antechinus stuartii</i>	Holleley et al., Molecular Ecology 15, 3439 (2006).	NA
<i>Antechinus swainsonii</i>	Holleley et al., Molecular Ecology 15, 3439 (2006).	NA
<i>Antilocapra americana</i>	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Jacques & Jenks, Western North American Naturalist 70, 570 (2010); Dunn et al., Molecular Ecology 20, 4889 (2011); Van Vuren et al., Journal of Mammalogy 94, 155 (2013).	NA
<i>Antrozous pallidus</i>	O'Shea & Vaughan, Journal of Mammalogy 58, 269 (1977).	NA
<i>Aotus azarae</i>	Huck et al., International Journal of Primatology 32, 1133 (2011); Huck & Fernandez-Duque, Behavioral Ecology and Sociobiology 66, 505 (2012).	NA
<i>Apodemus sylvaticus</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Arctocephalus forsteri</i>	Bradshaw et al., Journal of Mammalogy 84, 65 (2003).	NA

Arctocephalus galapagoensis	Trillmich, Behavioral Ecology and Sociobiology 19, 157 (1986).	NA
Arctocephalus gazella	Doidge et al., Journal of Zoology 202, 449 (1984); Harcourt, Journal of Zoology 202, 449 (1992);	NA
Arctocephalus pusillus	Gibbens & Arnould, Canadian Journal of Zoology- Revue Canadienne De Zoologie 87, 902 (2009).	NA
Arctocephalus tropicalis	Beauplet et al., Journal of Animal Ecology 74, 1160 (2005).	NA
Ateles belzebuth	Gibson et al., American Journal of Primatology 70, 485 (2008); Link et al., in Sexual coercion in primates and humans: An evolutionary perspective on male aggression against females, N., W., Eds. (Harvard University Press, Harvard, 2009), pp. 157-183.	NA
Ateles geoffroyi	Gibson et al., American Journal of Primatology 70, 485 (2008); Slater et al., American Journal of Primatology 71, 21 (2009).	NA
Ateles paniscus	McFarland Symington, Behavioral Ecology and Sociobiology 20, 421 (1987); Symington, American Journal of Primatology 15, 45 (1988)	NA
Avahi laniger	Fuentes, International Journal of Primatology 23, 953 (2002).	NA
Bison bison	Lott, Applied Animal Behaviour Science 29, 135 (1991); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Daleszczyk, Acta Theriologica 49, 555 (2004)	Rutberg, A Ethology 63, 206 (1983) ; Vervaecke et al. 2005, Animal Behaviour 70, 763 (2005).
Brachyteles arachnoides	Strier, Faces in the forest: the endangered muriqui monkeys of Brazil. (Oxford University Press, Oxford, 1992).	NA
Brachyteles hypoxanthus	Strier & Mendes, The Northern Muriqui (Brachyteles hypoxanthus): lessons on behavioral plasticity and population dynamics from a critically endangered species. Kappeler, Watts, Eds., Long-term field studies of primates. (2012), pp. 125-140.	NA
Bunopithecus hoolock	Alfred, J. R. B. & Sati, J. P. 1991 On the first record of infanticide in the hoolock gibbon Hylobates hoolock in the wild. Records of the Zoological Survey of India 89, 319-321; Kumar et al., in Rare animals of India, Singaravelan, Ed. (Bentham Science Publisher, 2013), pp. 242-266.	NA
Callimico goeldii	Porter, Folia primatologica 72, 69 (2001).	NA
Callithrix flaviceps	Digby & Saltzman, in The smallest anthropoids: the Marmoset/Callimico radiation, Ford, Porter, Davis, Eds. (Springer, New York, 2009), pp. 135-153; Hilario & Ferrari, Journal of Ethology 28, 195 (2010).	NA
Callithrix jacchus	Digby, Behavioral Ecology and Sociobiology 37, 51 (1995).	NA
Callorhinus ursinus	Ebensperger, Biological Reviews 73, 321 (1998).	NA
Canis dingo	Corbett, Ethology 78, 177 (1988).	NA
Canis latrans	Camenzind, in Coyotes: Biology, Behavior, and Management, M. Bekoff, Ed. (Academic Press, New York, 1978), pp. 267-294; Ebensperger, Biological Reviews 73, 321 (1998); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Canis lupus	McLeod, Canadian Journal of Zoology 68, 402 (1990); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Canis mesomelas	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Jenner, Zoological Society of London's Institute of Zoology, London and University of Kent, Canterbury, UK (2008).	NA

<i>Canis simensis</i>	SilleroZubiri et al., Behavioral Ecology and Sociobiology 38, 331 (1996); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Capreolus capreolus</i>	Andersen & Linnell, Canadian Journal of Zoology 76, 1217 (1998).	NA
<i>Cavia aperea</i>	Ebensperger, Biological Reviews 73, 321 (1998); Hennessy et al., Journal of Comparative Psychology 120, 12 (2006).	NA
<i>Cavia intermedia</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Cavia magna</i>	Ebensperger, Biological Reviews 73, 321 (1998); Kraus et al., Journal of Mammalogy 86, 763 (2005).	NA
<i>Cavia porcellus</i>	Ebensperger, Biological Reviews 73, 321 (1998); Sachser, Naturwissenschaften 85, 307 (1998).	NA
<i>Cebus apella</i>	Janson et al., in Long-Term Field Studies of Primates, P. M. Kappeler, W. D. P., Eds. (Springer-Verlag, Berlin Heidelberg, 2012), pp. 185-212.	Janson, Behavioral Ecology and Sociobiology 18, 125 (1985) ; Ferreira et al. American Journal of Primatology 68, 765 (2006); Izawa, Primates 21, 443 (1980)
<i>Cebus capucinus</i>	Manson et al., Folia Primatologica 75, 104 (2004).	Perry, International Journal of Primatology 40, 167 (1996); Bergstrom & Fedigan, Behaviour 147, 899 (2010).
<i>Cebus nigritus</i>	Ramírez-Llorens et al., American Journal of Primatology 70, 473 (2008).	Tiddi et al. Plos One 7, e36641 (2012)
<i>Cebus olivaceus</i>	Ebensperger, Biological Reviews 73, 321 (1998); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Cercocebus atys</i>	Range & Noë, American Journal of Primatology 56, 137 (2002).	Range & Noë, American Journal of Primatology 56, 137 (2002); Range, Behavioral Ecology and Sociobiology 59, 511 (2006).
<i>Cercocebus torquatus</i>	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Range, Behavioral Ecology and Sociobiology 59, 511 (2006).	NA
<i>Cercopithecus albogularis</i>	Henzi & Lawes, Folia primatologica 48, 125 (1987).	NA
<i>Cercopithecus ascanius</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Cercopithecus campbelli</i>	Galat-Luong, A. & Galat, G. 1979 Consequences comportementales des perturbations sociales repetees sur une troupe de Mones de Lowe, Cercopithecus campbelli lowei, de Cote d'Ivoire. Terre et Vie 33, 4-57; Bourlière et al., in Old World Monkeys: Evolution, Systematics and Behavior, J. R. Napier, P. H. Napier, Eds. (Academic Press, New York, 1970).	NA
<i>Cercopithecus mitis</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Cervus elaphus</i>	Guinness et al., Journal of Animal Ecology 47, 817 (1978).	NA
<i>Chalinolobus gouldii</i>	Dixon & Huxley, Mammalia 53, 395 (1989).	NA
<i>Cheirogaleus medius</i>	Fietz et al., Behavioral Ecology and Sociobiology 49, 8 (2000); Fietz & Dausmann, Folia primatologica 74, 246 (2003).	NA
<i>Chiropotes albinasus</i>	Treves, Folia primatologica 69, 81 (1998).	Treves, Folia primatologica 69, 81 (1998).
<i>Chiropotes satanas</i>	Treves, Folia primatologica 69, 81 (1998).	NA
<i>Chlorocebus aethiops</i>	Horrocks, Life-history characteristics of a wild population of vervet monkeys (Cercopithecus aethiops) in Barbados, West Indies. International Journal of Primatology 7, 31 (1986); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Isbell et al., International Journal of Primatology 30, 103 (2009).	Isbell & Pruettz, International Journal of Primatology 19, 837 (1998).
<i>Chlorocebus sabaeus</i>	Treves, Folia primatologica 69, 81 (1998).	NA
<i>Colobus guereza</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA

<i>Colobus vellerosus</i>	Teichroeb et al., Behavioral Ecology 23, 1348 (2012).	Wikberg et al. Behaviour 150, 295 (2013).
<i>Connochaetes taurinus</i>	Estes & Estes, Zeitschrift für Tierpsychologie 50, 45 (1979).	NA
<i>Crociodura russula</i>	Cantoni & Vogel, Animal behaviour 38, 205 (1989).	NA
<i>Crocuta crocuta</i>	Kruuk, The Spotted Hyena: A Study of Predation and Social Behaviour. (University of Chicago Press, Chicago, 1972); Hofer & East, in Serengeti II. Dynamics, Management and Conservation of an Ecosystem, A. R. E. Sinclair, P. Arcese, Eds. (University Press, Chicago, 1995), pp. 332-363.	White, Behavioral Ecology 16, 606 (2005)
<i>Cryptomys damarensis</i>	Clarke et al., Proceedings of the Royal Society of London. Series B: Biological Sciences 268, 899 (2001).	NA
<i>Cuon alpinus</i>	Johnsingh, Journal of Zoology 198, 443 (1982); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Cynictis penicillata</i>	Vidya et al., Journal of Zoology 278, 57 (2009).	NA
<i>Cynomys gunnisoni</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Cynomys leucurus</i>	Hoogland, Behaviour 69, 1 (1979).	NA
<i>Cynomys ludovicianus</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Hoogland, Science 230, 1037 (1985)
<i>Cynomys parvidens</i>	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, Wolff, Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Cystophora cristata</i>	Perry & Stenson, Behaviour 122, 1 (1992); Lydersen et al., Journal of Comparative Physiology B-Biochemical Systemic and Environmental Physiology 167, 81 (1997); Haug et al., Northwest Atlantic Fisheries Organization Scientific Council Studies 26, 101 (1996).	NA
<i>Dasyurus hallucatus</i>	Kraaijeveld et al., Proceedings of the Royal Society of London. Series B: Biological Sciences 270, S251 (2003).	NA
<i>Dasyurus viverrinus</i>	Kraaijeveld et al., Proceedings of the Royal Society of London. Series B: Biological Sciences 270, S251 (2003).	NA
<i>Diceros bicornis</i>	Weladji & Laflamme-Mayer, African Journal of Ecology 49, 471 (2011).	NA
<i>Dicrostonyx groenlandicus</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Didelphis virginiana</i>	Hopkins & Forbes, The Murrelet 61, 20 (1980).	NA
<i>Dolichotis patagonum</i>	Taber & Macdonald, Journal of Zoology 227, 439 (1992).	NA
<i>Enhydra lutris</i>	Riedman & Estes, Biological report 90, 1126 (1990); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Eptesicus fuscus</i>	Kilgour, Ethology 119, 189 (2013).	NA
<i>Equus burchellii</i>	Pluhacek et al., Journal of Mammalogy 87, 35 (2006).	NA
<i>Equus caballus</i>	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Equus zebra</i>	Smith et al., African Journal of Ecology 46, 207 (2008); Lloyd & rasa, Behavioral Ecology and Sociobiology 25, 411 (1989).	NA
<i>Erythrocebus patas</i>	Enstam et al., International Journal of Primatology 23, 85 (2002).	Pruetz & Isbell, Behavioral Ecology and Sociobiology 49, 38 (2000); Isbell & Pruetz, International Journal of Primatology 19, 837 (1998).

Eubalaena australis	Cerqueira Santos et al., <i>Ensaios e Ciencia</i> 14, 83 (2010); Payne, Reports of the International Whaling Commission Special Issue, 161 (1986).	NA
Eulemur fulvus	Jolly et al., <i>International Journal of Primatology</i> 21, 21 (2000).	Jolly et al. <i>International Journal of Primatology</i> 21, 21 (2000).
Eulemur macaco	Pereira & Weiss, <i>Behavioral Ecology and Sociobiology</i> 18, 141 (1991); Andrews, <i>Folia Primatologica</i> 69, 14 (1998); Jolly et al., <i>International Journal of Primatology</i> 21, 21 (2000).	Andrews, <i>Folia Primatologica</i> , 69, 14 (1998).
Eumetopias jubatus	Bruemmer, <i>Natural History</i> 103, 26 (1994).	NA
Felis catus	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Pontier & Natoli, <i>Aggressive Behavior</i> 25, 445-449 (1999).	NA
Galea monasteriensis	Hennessy et al., <i>Journal of Comparative Psychology</i> 120, 12 (2006); Adrian et al., <i>Journal of Zoology</i> 265, 97 (2005).	NA
Galea musteloides	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Gazella dorcas	Baharav, <i>Journal of Zoology</i> 200, 445 (1983).	NA
Giraffa camelopardalis	Carter et al., <i>Animal Behaviour</i> 85, 385 (2012); Bercovitch & Berry, <i>Journal of Zoology</i> 290, 281 (2013); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Gorilla beringei	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998).	NA
Gorilla gorilla	Stokes et al., <i>Behavioral Ecology and Sociobiology</i> 54, 329 (2003).	NA
Halichoerus grypus	Anderson et al., <i>Journal of Zoology</i> 189, 407 (1979); Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA
Hapalemur griseus	Nievergelt et al., <i>American Journal of Primatology</i> 57, 157 (2002).	NA
Helogale parvula	Rasa book chapter (1994)	NA
Herpestes sanguineus	Rood, <i>Animal Behaviour</i> 39, 566 (1989); Waser et al., <i>Animal Behaviour</i> 47, 289 (1994).	NA
Heterocephalus glaber	Faulkes, in <i>Cooperative Breeding in Mammals</i> , Solomon, French, Eds. (Cambridge University press, New York, 1997).	NA
Hippopotamus amphibius	Karstad & Hudson, <i>Mammalia</i> 50, 153 (1986); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Hippotragus equinus	Beudels et al. <i>Biological Conservation</i> (1992)	NA
Hyaena brunnea	Owens & Owens, <i>Nature</i> 308, 843 (1984); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Hyaena hyaena	van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Wagner et al., <i>Molecular Ecology</i> 16, 4356 (2007); Wagner et al., <i>Animal Behaviour</i> 75, 1131 (2008).	NA
Hydrochoeris hydrochaeris	Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Hylobates lar	Borries et al., <i>Behavioral Ecology and Sociobiology</i> 65, 685 (2011).	NA
Lagothrix lagotricha	Stevenson, <i>Primates</i> 47, 239 (2006); Di Fiore et al., <i>American Journal of Primatology</i> 68, 637 (2006).	NA

Lasiopodomys brandtii	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Lemmus lemmus	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Lemur catta	Sauther et al., Evolutionary Anthropology 8, 120 (1999); Jolly et al., International Journal of Primatology 21, 21 (2000).	Jolly et al., International Journal of Primatology 21, 21 (2000).
Leontopithecus chrysomelas	De Vleeschouwer et al., Folia Primatologica 72, 1 (2001).	NA
Leontopithecus rosalia	Digby & Saltzman, in The smallest anthropoids: the Marmoset/Callimico radiation, S. M. Ford, L. M. Porter, L. Davis, Eds. (Springer, New York, 2009), pp. 135–153; Henry et al., Hormones and Behaviour 63, 675 (2013).	NA
Leopardus pardalis	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Hunter & Skinner, Transactions of the Royal Society of South Africa 56, 79 (2003).	NA
Lepilemur edwardsi	Rasoloharijaona et al., International Journal of Primatology 21, 41 (2000).	NA
Leptonychotes weddellii	Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276; Proffitt et al., Oikos 119, 1255 (2010).	NA
Lepus americanus	Krebs et al., BioScience 51, 25 (2001).	NA
Lophocebus albigena	Arlot et al., Folia Biologica 61, 3 (2013).	Chancellor & Isbell, Behavioral Ecology and Sociobiology 63, 1447 (2009).
Lophostoma silvicolium	Knörnschild et al., PLoS One 6, e25001 (2011).	NA
Loris lydekkerianus	Nekaris, Folia primatologica 74, 312 (2003); Radhakrishna & Singh, Current Science 86, 1121 (2004).	NA
Loris tardigradus	Nekaris, Folia primatologica 74, 312 (2003); Nekaris, American Journal of Primatology 68, 1171 (2006).	NA
Loxodonta africana	Moss, Journal of Zoology 255, 145 (2001); Wittmeyer & Getz, Animal Behaviour 73, 671 (2007).	Archie et al. Animal Behaviour 71, 117 (2006).
Lycaon pictus	van Lawick, Solo: the story of an African wild dog. (Houghton Mifflin Company, Boston, MA. , 1974); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Lynx canadensis	Hunter & Skinner, Transactions of the Royal Society of South Africa 56, 79 (2003).	NA
Lynx pardinus	Lopez et al., Wildlife Biology in Practice 6, 67 (2010).	NA
Macaca arctoides	Solanski & Zothansiam, Current Science 104, 1081 (2013).	Gouzoules, Primates 16, 405 (1975)
Macaca fascicularis	Ebensperger, Biological Reviews 73, 321 (1998).	De Waal, Zeitschrift für Tierpsychologie 44, 225 (1977); Thierry 2007 Evolutionary Anthropology 16, 224 (2007).
Macaca fuscata	Kutsukake, Primates 41, 321 (2000).	Koyama, Primates 8, 189 (1967); Koyama, Primates 11, 335 (1970) ; Kutsukake, Primates 41, 321 (2000).
Macaca mulatta	Hrdy, Ethology and Sociobiology 1, 13 (1979); Maestriperieri & Carroll, Psychological Science 9, 143 (1998); Ebensperger, Biological Reviews 73, 321 (1998).	Maestriperieri, Behaviour 131, 97 (1994).
Macaca nemestrina	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Maestriperieri, Behaviour 131, 97 (1994).

<i>Macaca nigra</i>	A. Engelhardt, Pers. Comm.	Engelhardt, pers com; Duboscq et al., American Journal of Primatology 75, 361 (2013)
<i>Macaca radiata</i>	Ebensperger, Biological Reviews 73, 321 (1998).	Silk et al. Animal Behaviour 29, 1106 (1981).
<i>Macaca silenus</i>	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Singh et al. 2006 Journal of Bioscience 31, 369 (2006)
<i>Macaca sinica</i>	Dittus, Animal Behaviour 36, 1628 (1988).	Dittus, Behavioral Ecology and Sociobiology 19, 257 (1986)
<i>Macaca sylvanus</i>	Ebensperger, Biological Reviews 73, 321 (1998); Paul & Kuester, Behavioral Ecology and Sociobiology 39, 139 (1996)	Paul & Kuester, Behavioral Ecology and Sociobiology 39, 139 (1996)
<i>Macaca thibetana</i>	Berman et al., International Journal of Primatology 28, 1123 (2007).	Berman et al. International Journal of Primatology 25, 1283 (2004).
<i>Macaca tonkeana</i>	Muroyama & Thierry, International Journal of Primatology 17, 219 (1996).	Muroyama & Thierry, International Journal of Primatology 17, 219 (1996).
<i>Macropus giganteus</i>	Nave, Doctoral dissertation, The University of Melbourne (2002).	NA
<i>Madoqua kirkii</i>	Hendrichs, Zeitschrift für Tierpsychologie 38, 55 (1975); Brotherton & Manser, Animal Behaviour 54, 1413 (1997); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Mandrillus leucophaeus</i>	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Mandrillus sphinx</i>	Setchell et al., American Journal of Physical Anthropology 131, 498 (2006).	Setchell et al. International Journal of Primatology 23, 51 (2002).
<i>Marmota caligata</i>	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, Wolff, Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Marmota caudata</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Marmota flaviventris</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Brody & Melcher, Animal Behaviour 33, 673-674 (1985).
<i>Marmota marmota</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Marmota monax</i>	Maher & Duron, Journal of Mammalogy 91, 628 (2010).	NA
<i>Martes americana</i>	Erb et al., Minnesota Department of Natural Resources Summaries of Wildlife Research Findings 2009, 12 (2010)	NA
<i>Martes pennanti</i>	Erb et al., Minnesota Department of Natural Resources Summaries of Wildlife Research Findings 2009, 12 (2010)	NA
<i>Megaderma lyra</i>	Knörnschild et al., PLoS One 6, e25001 (2011).	NA
<i>Meles meles</i>	Ebensperger, Biological Reviews 73, 321 (1998).	NA
<i>Mellivora capensis</i>	Begg et al., Journal of Zoology 265, 23 (2005).	NA
<i>Mephitis mephitis</i>	Sargeant et al., Canadian Field Naturalist 96, 312 (1982); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Meriones unguiculatus</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Mesocricetus auratus</i>	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O.	NA

Microcebus murinus	Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007). Eberle & Kappeler, Behavioral Ecology and Sociobiology 57, 91 (2004); Eberle & Kappeler, Behavioral Ecology and Sociobiology 60, 582 (2006).	NA
Microtus agrestis	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Microtus arvalis	Heise & Lippke, Aggressive Behavior 23, 293 (1997).	NA
Microtus californicus	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Microtus canicaudus	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Microtus ochrogaster	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Microtus pennsylvanicus	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Microtus townsendii	Blumstein, in Infanticide by Males and Its Implications, C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000)	NA
Mirounga angustirostris	LeBoeuf et al., Behaviour 43, 121 (1972); LeBoeuf & Briggs, Mammalia 41, 167 (1977).	NA
Mirounga leonina	McCann, Animal Behaviour 30, 268 (1982); LeBoeuf et al., Behaviour 43, 121 (1972).	NA
Mirza coquereli	Stanger et al., American Journal of Primatology 36, 223 (1995).	NA
Monachus schauinslandi	Bonness, Behavioral Ecology and Sociobiology 27, 113 (1990); Hiruki et al., Canadian Journal of Zoology 71, 458 (1993).	NA
Mungos mungo	Gilchrist, Behavioral Ecology 11, 1 (2006).	Hodge et al. 2011. Biology letters 7, 54 (2011).
Mus musculus	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, Wolff, Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Mustela erminea	Alterio, Ecography 21, 18 (1998); Hellstedt & Henttonen, Journal of Zoology 269, 205 (2006); Samson & Raymond, Mammalia 62, 165 (1998); Cuthbert & Sommer, New Zealand Journal of Zoology 29, 149 (2002).	NA
Mustela frenata	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Myodes glareolus	Ebensperger & Blumstein, in Rodent societies: an ecological and evolutionary perspective, J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Myotis myotis	Łupicki et al., Mammalia 74, 339 (2010).	NA
Nasalis larvatus	Murai et al., Primates 48, 117 (2007).	NA
Nasua nasua	Ebensperger, Biological Reviews 73, 321 (1998); van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Hirsch, Ethology 113, 446 (2007).

Neophoca cinerea	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276; Higgins & Tedman, <i>Marine Mammal Science</i> 71, 617 (1990).	NA
Neotoma albigula	Topping & Millar, <i>Behavioral Ecology and Sociobiology</i> 43, 115 (1998).	NA
Neotoma cinerea	Escherich, <i>American Zoologist</i> 15, 821 (1975).	NA
Neotoma lepida	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000)	NA
Neovison vison	Garcia-Diaz & Lizana, <i>North-Western Journal of Zoology</i> 9, 438 (2013).	NA
Nyctereutes procyonoides	van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Drygala et al., <i>Acta Theriologica</i> 53, 111 (2008); Drygala et al., <i>Wildlife biology</i> 14, 457 (2008); Kowalczyk et al., <i>Annales Zoologici Fennici</i> 46, 291 (2009).	NA
Nycticeius humeralis	Kunz & Ebensperger, <i>Acta Chiropterologica</i> 1, 17 (1999).	NA
Ochotona curzoniae	Dobson et al., <i>Behavioral Ecology</i> 9, 622 (1998).	NA
Octodon degus	Ebensperger, <i>Acta Ethologica</i> 3, 89 (2001).	Ebensperger, <i>Acta Ethologica</i> 3, 89 (2001).
Odobenus rosmarus	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA
Odocoileus virginianus	Sams et al., <i>Journal of Mammalogy</i> 77, 179 (1996).	NA
Onychomys torridus	Horner & Taylor, <i>Journal of Mammalogy</i> 49, 644 (1968).	NA
Oreamnos americanus	Gaillard et al., <i>Annual Review of Ecology and Systematics</i> 31, 367 (2000).	NA
Oryctolagus cuniculus	Künkele, <i>Journal of Mammalogy</i> 73, 317 (1992); Rödel et al., <i>Ethology</i> 114, 22 (2008).	NA
Oryx leucoryx	Harding, <i>Oryx</i> 41, 478 (2007).	NA
Otaria byronia	Campagna et al., <i>Behaviour</i> 107, 44 (1988).	NA
Otocyon megalotis	Lamprecht, <i>Zeitschrift für Tierpsychologie-Journal of Comparative Ethology</i> 49, 260 (1979); Malcolm, <i>Journal of Zoology</i> 208, 457 (1986); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Wright et al., <i>Journal of Mammalogy</i> 91, 437 (2012).	NA
Otolemur crassicaudatus	Buettner-Janusch, <i>Folia primatologica</i> 2, 93 (1964); Welker & Schaäfer-Witt, <i>International journal of primatology</i> 9, 509 (1988).	NA
Otolemur garnettii	Welker & Schaäfer-Witt, <i>International journal of primatology</i> 9, 509 (1988).	NA
Ovibos moschatus	Lent, <i>Mammalian species</i> 302, 1 (1988).	NA
Ovis aries	Gaillard et al., <i>Annual Review of Ecology and Systematics</i> 31, 367 (2000).	NA
Ovis canadensis	Festabianchet, <i>Journal of Animal Ecology</i> 58, 785 (1989); Festabianchet et al., <i>Behavioral Ecology</i> 5, 21 (1994); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Ozotoceros bezoarticus	Kunz & Ebensperger, <i>Acta Chiropterologica</i> 1, 17 (1999).	NA
Pan paniscus	Furuichi et al., in P. M. Kappeler, D. P. Watts, Eds., <i>Long-term field studies of primates</i> . (Springer-Verlag, Berlin Heidelberg, 2012), pp. 413-433.	NA
Pan troglodytes	Goodall, <i>The chimpanzees of Gombe: patterns of behaviour</i> . Harvard University Press, Cambridge, (1996); Townsend et al., <i>Current Biology</i> 17, R355 (2007).	NA

Panthera leo	Packer & Pusey, in <i>Infanticide: Comparative and Evolutionary Perspectives</i> , G. Hausfater, S. B. Hrdy, Eds. (Aldine, New York, 1984), pp. 31-42.	Packer & Pusey, in <i>Infanticide: Comparative and Evolutionary Perspectives</i> , G. Hausfater, S. B. Hrdy, Eds. (Aldine, New York, 1984), pp. 31-42.
Panthera onca	Soares et al., <i>Genetics and Molecular Biology</i> 29, 735 (2006).	NA
Panthera pardus	Hunter & Skinner, <i>Transactions of the Royal Society of South Africa</i> 56, 79 (2003).	NA
Panthera tigris	Hunter & Skinner, <i>Transactions of the Royal Society of South Africa</i> 56, 79 (2003).	NA
Papio anubis	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Palombit, in <i>Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions</i> , C. B. Jones, Ed. (American Society of Primatologists, 2003), pp. 367-412.	Smuts, <i>Sex and Friendship in Baboons</i> . Routledge, (1985).
Papio cynocephalus	Collins et al., in <i>Infanticide: comparative and evolutionary perspectives</i> G. Hausfater, S. B. Hrdy, Eds. (Aldine: New York, 1984); Wasser & Starling, in <i>Primate ontogeny, cognition and social behavior</i> , J. G. Else, P. C. Lee, Eds. (Cambridge University Press, Cambridge, 1986), pp. 343-354; Shopland & Altmann, <i>International Journal of Primatology</i> 13, 61 (1987); Palombit, in <i>Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions</i> , C. B. Jones, Ed. (American Society of Primatologists, 2003), pp. 367-412.	Kleindorfer & Wasser, <i>Behavioral Ecology and Sociobiology</i> , 56, 328. (2004)
Papio hamadryas	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Palombit, in <i>Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions</i> , C. B. Jones, Ed. (American Society of Primatologists, 2003), pp. 367-412.	NA
Papio papio	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Palombit, in <i>Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions</i> , C. B. Jones, Ed. (American Society of Primatologists, 2003), pp. 367-412.	NA
Papio ursinus	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Palombit, in <i>Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions</i> , C. B. Jones, Ed. (American Society of Primatologists, 2003), pp. 367-412; Brain, <i>International Journal of Primatology</i> 13, 593 (1992).	Cheney et al., 2006. In <i>Reproduction and fitness in baboons: Behavioral, ecological, and life history perspectives</i> . (Springer US 2006) pp. 147-176; Brain, <i>International Journal of Primatology</i> 13, 593 (1992).
Paraxerus cepapi	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Peromyscus californicus	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
Peromyscus leucopus	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Peromyscus maniculatus	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Peromyscus polionotus	Margulis et al., <i>Animal Behaviour</i> 69, 627 (2005); Kaufman & Kaufman, <i>Journal of Mammalogy</i> 68, 275 (1987); Foltz, <i>American Naturalist</i> 117, 665 (1981).	NA
Phacochoerus aethiopicus	Somers et al., <i>Acta Theriologica</i> 40, 257 (1995); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
Phascogale tapoatafa	Rhind, <i>Wildlife Research</i> 29, 247 (2002).	NA
Phoca groenlandica	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA

<i>Phoca sibirica</i>	Thomas et al., <i>Mammalian Species</i> , 1 (1982).	NA
<i>Phoca vitulina</i>	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA
<i>Phocarcos hookeri</i>	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA
<i>Phodopus campbelli</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Phodopus sungorus</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Phyllostomus hastatus</i>	Bohn et al., <i>Behavioral Ecology and Sociobiology</i> 63, 1693 (2009).	NA
<i>Phyllotis darwini</i>	Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Pithecia pithecia</i>	Norconk, <i>International journal of primatology</i> 27, 653 (2006).	NA
<i>Pongo abelii</i>	Beaudrot et al., <i>Behavioral Ecology and Sociobiology</i> 63, 1549 (2009).	NA
<i>Pongo pygmaeus</i>	Beaudrot et al., <i>Behavioral Ecology and Sociobiology</i> 63, 1549 (2009).	NA
<i>Potos flavus</i>	Kays, <i>Journal of Zoology</i> 253, 491 (2001).	NA
<i>Presbytis potenziani</i>	Fuentes, <i>International Journal of Primatology</i> 23, 953 (2002).	NA
<i>Presbytis thomasi</i>	Steenbeek, in <i>Infanticide by males and its implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000), pp. 153-177.	NA
<i>Procolobus badius</i>	Struhsaker & Leland, <i>Zeitschrift fuer Tierpsychologie</i> 69, 89 (1985).	NA
<i>Propithecus diadema</i>	Wright, <i>International Journal of Primatology</i> 16, 835 (1995); Erhart & Overdorff, <i>International Journal of Primatology</i> 19, 73 (1998).	NA
<i>Propithecus edwardsi</i>	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); Morelli, <i>Behaviour</i> 146, 499 (2009).	Morelli et al. <i>Behaviour</i> 146, 499 (2009).
<i>Propithecus verreauxi</i>	van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	Erhart & Overdorff, <i>International Journal of Primatology</i> 29, 1227 (2008).
<i>Proteles cristata</i>	Koehler & Richardson, <i>Mammalian Species</i> 363, 1 (1990); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Kotze et al., <i>Animal Behaviour</i> 84, 1573 (2012).	NA
<i>Pteronura brasiliensis</i>	Mourao & Carvalho, <i>Mammalia</i> 65, 225 (2001).	NA
<i>Pteropus hypomelanus</i>	Kunz & Ebensperger, <i>Acta Chiropterologica</i> 1, 17 (1999).	NA
<i>Pteropus vampyrus</i>	Kunz & Ebensperger, <i>Acta Chiropterologica</i> 1, 17 (1999).	NA
<i>Puma concolor</i>	van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Hunter & Skinner, <i>Transactions of the Royal Society of South Africa</i> 56, 79 (2003).	NA
<i>Pygathrix bieti</i>	Xiang & Grueter, <i>American Journal of Primatology</i> 69, 249 (2007).	NA
<i>Pygathrix nemaeus</i>	Angst & Thommen, <i>Folia primatologica</i> 27, 198 (1977).	NA
<i>Pygathrix roxellana</i>	Zhang et al., <i>Folia Primatologica</i> 70, 274 (1999); Qi et al., <i>American Journal of Primatology</i> 71, 670 (2009).	NA
<i>Rangifer tarandus</i>	Gaillard et al., <i>Annual Review of Ecology and Systematics</i> 31, 367 (2000).	Barrette & Vandal, <i>Behaviour</i> 97, 118 (1986).

<i>Rattus norvegicus</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000); Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Rhabdomys pumilio</i>	Schradin & Pillay, <i>Journal of Comparative Psychology</i> 117, 317 (2003).	NA
<i>Rhinoceros unicornis</i>	Dinerstein et al., <i>Journal of Mammalogy</i> 69, 813 (1988).	NA
<i>Rhynchocyon chrysopygus</i>	Rathbun, <i>Mammalian species</i> 117, 1 (1979).	NA
<i>Saguinus fuscicollis</i>	Tirado-Herrera et al., <i>American Journal of Primatology</i> 50, 153 (2000).	NA
<i>Saguinus mystax</i>	Culot et al., <i>Primates</i> 52, 179 (2011).	NA
<i>Saguinus oedipus</i>	Savage et al., <i>American Journal of Primatology</i> 38, 85 (1996).	NA
<i>Saimiri oerstedii</i>	Zimble-DeLorenzo & Stone, <i>American Journal of Primatology</i> 73, 607 (2011).	NA
<i>Saimiri sciureus</i>	Hrdy, <i>Advances in the Study of Behavior</i> 6, 101 (1976).	NA
<i>Sciurus carolinensis</i>	Lane et al., <i>Animal Behaviour</i> 75, 1927 (2008).	NA
<i>Semnopithecus entellus</i>	Sugiyama, in <i>Social communication among primates</i> , S. A. Altmann, Ed. (University of Chicago Press, Chicago, 1967), pp. 221-236; Hrdy, <i>Folia primatologica</i> 22, 19 (1974); Hrdy, <i>Advances in the Study of Behavior</i> 6, 101 (1976).	Borries, <i>Behavioral Ecology and Sociobiology</i> 41, 139 (1997).
<i>Speothos venaticus</i>	Macdonald, <i>Journal of Zoology</i> 239, 525 (1996); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus beecheyi</i>	Ebensperger, <i>Biological Reviews</i> 73, 321 (1998).	NA
<i>Spermophilus beldingi</i>	Ebensperger & Blumstein, in <i>Rodent societies: an ecological and evolutionary perspective</i> , J. O. Wolff, P. W. Sherman, Eds. (The University of Chicago Press, Chicago, 2007).	NA
<i>Spermophilus citellus</i>	Ramos-Lara et al. <i>Mammalian Species</i> 46, 71 (2014).	NA
<i>Spermophilus columbianus</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus franklinii</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus fulvus</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus parryii</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus richardsonii</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus townsendii</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Spermophilus tridecemlineatus</i>	Blumstein, in <i>Infanticide by Males and Its Implications</i> , C. P. van Schaik, C. H. Janson, Eds. (Cambridge University Press, Cambridge, 2000).	NA
<i>Suncus murinus</i>	Rissman, <i>Journal of Experimental Zoology</i> 4, 207 (1990).	NA
<i>Suricata suricatta</i>	Clutton-Brock et al., <i>Proceedings of the Royal Society of London, Series B</i> 265, 2291 (1998).	NA
<i>Sus scrofa</i>	Andersson et al., <i>Applied Animal Behaviour Science</i> 134, 184 (2011).	Andersson et al. <i>Applied Animal Behaviour Science</i> 134, 184 (2011).
<i>Symphalangus syndactylus</i>	Morino, Doctoral dissertation, Rutgers University-Graduate School-New Brunswick (2012).	NA

Tadarida brasiliensis	Kunz & Ebensperger, Acta Chiropterologica 1, 17 (1999); Knörnschild et al., PLoS One 6, e25001 (2011).	NA
Tamias striatus	Bergeron et al., Journal of Evolutionary Biology 24, 1685 (2011).	NA
Tarsius bancanus	Roberts, International Journal of Primatology 15, 1 (1994).	NA
Theropithecus gelada	Ebensperger, Biological Reviews 73, 321 (1998).	Dunbar, Behavioral Ecology and Sociobiology 7, 253 (1970).
Trachypithecus cristatus	Harding, Mammalian Species 42, 149 (2010).	NA
Trachypithecus poliocephalus	Zhao et al., Behavioral Ecology and Sociobiology 65, 1535 (2011).	NA
Trachypithecus vetulus	Ebensperger, Biological Reviews 73, 321 (1998).	NA
Tursiops truncatus	Patterson et al., Proceedings of the Royal Society, Series B 265, 1167 (1998).	NA
Ursus americanus	Ebensperger, Biological Reviews 73, 321 (1998); Samson, Canadian Journal of Zoology 79, 633 (2001).	NA
Ursus arctos	Ebensperger, Biological Reviews 73, 321 (1998); Wielgus & Bunnell, Biological Conservation 93, 145 (2000).	NA
Ursus maritimus	Taylor et al., Arctic 38, 303 (1985).	NA
Varecia variegata	van Noordwijk & van Schaik, in Infanticide by Males and Its Implications, Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000); Baden et al., Behavioral Ecology and Sociobiology 67, 1937 (2013).	NA
Vulpes lagopus	Kruchenkova et al., Naturwissenschaften 96, 457 (2009).	NA
Vulpes velox	Kamler et al., Animal Behaviour 68, 83 (2004); Kitchen et al., Animal Behaviour 71, 1029 (2006).	NA
Vulpes vulpes	Packer & Pusey, in Infanticide: comparative and evolutionary perspectives., G. Hausfater, S. B. Hrdy, Eds. (Aldine, New York, 1984), pp. 31-42.	NA
Vulpes zerda	Lariviere, Mammalian Species 714, 1 (2002).	NA
Xerus inauris	Waterman, Ethology 101, 130 (1995).	NA
Zalophus californianus	Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA
Zalophus wolfebaeki	Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.	NA

B) Citations for population observation with details on female infanticide

The table lists the references with the observations on the characteristics of the killer and the victim and the circumstances of infanticide by females for the set of species for which this information was available. All references are listed in full below.

Species	Reference
<i>Acomys cahirinus</i>	Porter & Doane, <i>Zeitschrift für Tierpsychologie</i> 47, 225 (1978)
<i>Aethomys namaquensis</i>	Fleming & Nicolson, <i>African Zoology</i> 39, 123 (2004).
<i>Apodemus sylvaticus</i>	Gerlach & Bartmann, <i>Behavioral Ecology</i> 13, 408 (2002).
<i>Arctocephalus gazella</i>	Doidge et al. <i>Journal of Zoology</i> 449 (1984) ; Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
<i>Callithrix flaviceps</i>	Hilário & Ferrari, <i>Journal of Ethology</i> 28, 195 (2010).
<i>Callithrix jacchus</i>	Melo et al. <i>Folia Primatologica</i> 74, 48 (2003).
<i>Callithrix jacchus</i>	Melo et al. <i>Folia Primatologica</i> 74, 48 (2003).
<i>Callorhinus ursinus</i>	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.
<i>Canis dingo</i>	Corbett. <i>Ethology</i> . 78, 177 (1988) Camenzind, in <i>Coyotes: Biology, Behavior, and Management</i> , M. Bekoff, Ed. (Academic Press, New York, 1978), pp. 267-294; Ebensperger, <i>Biological Reviews</i> 73, 321 (1998); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).
<i>Canis latrans</i>	
<i>Canis lupus</i>	McLeod, <i>Canadian Journal for Zoology</i> , 68, 402 (1990)
<i>Canis mesomelas</i>	Jenner, PhD Thesis. University of Kent, Canterbury, UK (2008). SilleroZubiri et al., <i>Behavioral Ecology and Sociobiology</i> 38, 331 (1996); van Noordwijk & van Schaik, in <i>Infanticide by Males and Its Implications</i> , Van Schaik, Janson, Eds. (Cambridge University Press, Cambridge, 2000).
<i>Canis simensis</i>	
<i>Clethrionomys glareolus</i>	Ylonen et al. <i>Annals Zoologica Fennici</i> 34, 259 (1997)
<i>Crocota crocata</i>	White, <i>Behavioral Ecology</i> 16, 606 (2005)
<i>Cynomys ludovicianus</i>	Hoogland, <i>Science</i> 230, 1037 (1985)
<i>Dicrostonyx groenlandicus</i>	Mallory & Brooks, <i>Biology of Reproduction</i> , 22, 192 (1980)
<i>Equus zebra</i>	Lloyd & Rasa, <i>Behavioral Ecology and Sociobiology</i> , 25, 411 (1989)
<i>Eulemur fulvus</i>	Jolly et al., <i>International Journal of Primatology</i> . 21, 21 (2000)
<i>Eulemur macaco</i>	Andrews, <i>Folia Primatologica</i> , 69, 14 (1989)
<i>Galea musteloides</i>	Künkele & Hoeck, <i>Ethology</i> . 83, 316 (1989).
<i>Halichoerus grypus</i>	Anderson et al., <i>Journal of Zoology</i> 189, 407 (1979); Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , Parmigiani & vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276.
<i>Heterocephalus glaber</i>	Faulkes & Bennett, <i>Trends in Ecology & Evolution</i> , 16, 184 (2001).
<i>Hyaena brunnea</i>	Owens & Owens <i>Nature</i> 308, 843 (1984)
<i>Lasiopodomys brandtii</i>	Yu & Fang. <i>Acta Theriologica Sinica</i> , 23, 326 (2003)
<i>Lemmus lemmus</i>	Semb-Johansson et al., <i>Oikos</i> (1979): 246-260.
<i>Lemur catta</i>	Jolly et al, <i>International Journal of Primatology</i> . 21, 21 (2000)
<i>Leontopithecus chrysomelas</i>	De Vleeschouwer, et al. <i>Folia Primatologica</i> , 72, 1 (2001)
<i>Leptonychotes weddellii</i>	Le Boeuf & Campagna, in <i>Infanticide and parental care</i> , S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
<i>Lycaon pictus</i>	Creel & Creel <i>Animal Conservation</i> 1, 1 (1998)
<i>Macaca mulatta</i>	Maestriperi. <i>Behaviour</i> , 131, 97 (1994)
<i>Macaca nemestrina</i>	Maestriperi. <i>Behaviour</i> , 131, 97 (1994)
<i>Macaca radiata</i>	Silk et al, <i>Animal Behaviour</i> , 29, 1106 (1981)
<i>Macaca sylvanus</i>	Paul & Kuester, <i>Behavioral Ecology and Sociobiology</i> 39,139 (1996)
<i>Macaca tonkeana</i>	Muroyama et al. <i>International journal of primatology</i> . 17, 219 (1996)

Marmota caligata	Patilet al., PloS one 10, e0119081 (2015).
Marmota flaviventris	Brody & Melcher, Animal Behaviour 33, 673-674 (1985).
Marmota marmota	King & Allainé, Canadian Journal of Zoology 80, 2137 (2002)
Megaderma lyra	Knörnschild et al. PloS one, 6, e25001 (2011) Mallinson et al., Philosophical Transactions of the Royal Society of London B: Biological Sciences 338, 393 (1992)
Meles meles	
Meriones unguiculatus	Elwood & Ostermeyer, in: G. Hausfater, S.B. Hrdy (Eds.), Infanticide, Aldine, New York (1984), pp. 367–386
Meriones unguiculatus	Elwood & Ostermeyer, in: G. Hausfater, S.B. Hrdy (Eds.), Infanticide, Aldine, New York (1984), pp. 367–386
Mesocricetus auratus	Goldman & Swanson, Zeitschrift für Tierpsychologie. 37, 225 (1975)
Microtus agrestis	Agrell, Behavioral Ecology 6, 82 (1995)
Microtus canicaudus	Wolff et al. Journal of Mammalogy, 83, 947 (2002)
Microtus ochrogaster	Lonstein & De Vries, Physiology & Behavior, 66, 33 (1999)
Microtus pennsylvanicus	Ebensperger et al., Ethol Ecol Evol 12, 149 (2000)
Microtus townsendii	Boonstra, Ecology 59,242 (1978)
Mirounga angustirostris	LeBoeuf et al., Behaviour 43, 121 (1972) Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
Monachus schauinslandi	
Mungos mungo	Hodge et al., Biology letters 7, 54 (2011)
Mus musculus	Manning et al. Animal Behaviour 50, 741 (1995)
Myotis myotis	Łupicki, et al., Mammalia, 74, 339 (2010) Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
Neophoca cinerea	
Neotoma lepida	Fleming, Behavioral and Neural Biology 26, 41 (1979)
Nycticeius humeralis	Kunz & Ebensperger, Acta Chiropterologica 1, 17 (1999). Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
Odobenus rosmarus	
Oryctolagus cuniculus	Künkele America Society of Mammalogists 73, 317 (1992) Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276
Otaria flavescens	
Otolemur crassicaudatus	Welker & Schaäfer-Witt, International journal of primatology 9, 509 (1988).
Otolemur garnettii	Welker & Schaäfer-Witt, International journal of primatology 9, 509 (1988).
Pan troglodytes	Pusey et al., International Journal of Primatology, 29, 949 (2008) Packer & Pusey, in: Infanticide: Comparative and Evolutionary Perspectives (1984), Eds: Hausfater & Hrdy, pp38
Panthera leo	
Papio cynocephalus	Kleindorfer & Wasser, Behavioral Ecology and Sociobiology 56, 328 (2004) Cheney et al.: In Reproduction and fitness in baboons: Behavioral, ecological, and life history perspectives (pp. 147-176) (2006). Springer US; Brain International Journal of Primatology 13, 1992 (1992)
Papio ursinus	
Peromyscus leucopus	Wolff & Cicirello, Behavioral Ecology 2, 38 (1991)
Peromyscus maniculatus	Wolff & Cicirello, Behavioral Ecology 2, 38 (1991)
Phacochoerus aethiopicus	Somers et al. Acta Theriologica 40,257 (1995)
Phodopus campbelli	Vella et al., Developmental psychobiology 46, 75 (2005)
Phodopus sungorus	Vella et al., Developmental psychobiology 46, 75 (2005)
Phyllostomus hastatus	Bohn et al., Behavioral Ecology and Sociobiology 63, 1693 (2009) Ebensperger & Blumstein, in: Rodent societies: an ecological and evolutionary perspective, pp.267-279. (2007)
Phyllotis darwini	
Propithecus edwardsi	Morelli et al. Behaviour 146, 499 (2009)
Pteropus hypomelanus	Kunz & Ebensperger, Acta Chiropterologica 1, 17 (1999).
Pteropus vampyrus	Kunz & Ebensperger, Acta Chiropterologica 1, 17 (1999).
Rattus norvegicus	Schultz & Lore, Journal of Comparative Psychology 107, 216 (1993)
Rhabdomys pumilio	Hill et al., Journal of Animal Ecology 84, 1497 (2015)

Speothos venaticus	Macdonald, Journal of Zoology 239, 525 (1996)
Spermophilus beecheyi	Trulio, Behavioral Ecology and Sociobiology 38, 97 (1996)
Spermophilus beldingii	Jenkins & Eshelman Mammalian Species 221, 1 (1984)
Spermophilus columbianus	Stevens, Canadian Journal of Zoology 76, 1183 (1998)
Suricata suricatta	Clutton-Brock et al., Proceedings of the Royal Society of London B: Biological Sciences 265, 2291 (1998)
Sus scrofa	Andersson et al., Applied Animal Behaviour Science, 134, 84 (2011)
Tadarida brasiliensis	Knörnschild et al. PLoS one 6, p.e25001 (2011)
Vulpes lagopus	Kruchenkova et al., Naturwissenschaften, 96, 457 (2009)
Vulpes vulpes	Vergara, Canadian Field-Naturalist, 115, 170 (2001)
Zalophus californianus	Le Boeuf & Campagna, in Infanticide and parental care, S. Parmigiani, F. vom Saal, Eds. (Harwood Academic Publishers, 1994), pp. 257-276

C) Reference list

- Adrian, Oliver, Ina Brockmann, Christa Hohoff, and Norbert Sachser. "Paternal Behaviour in Wild Guinea Pigs: A Comparative Study in Three Closely Related Species with Different Social and Mating Systems." *Journal of Zoology* 265, no. 1 (January 2005): 97–105. <https://doi.org/10.1017/S0952836904006090>.
- Agrell, Jep, Jerry O. Wolff, and Hannu Ylönen. "Counter-Strategies to Infanticide in Mammals: Costs and Consequences." *Oikos* 83, no. 3 (1998): 507–17. <https://doi.org/10.2307/3546678>.
- Agrell, J. "A shift in female social organization independent of relatedness: an experimental study on the field vole (*Microtus agrestis*)." *Behavioral Ecology* 6.2 (1995): 182-191. <https://doi.org/10.1093/beheco/6.2.182>
- Alfred, J. R. B., Sati, J. P. "On the First Record of Infanticide in the Hoolock Gibbon *Hylobates Hoolock* in the Wild." *Records of the Zoological Survey of India* 89 (1991): 319–21.
- Alterio, Nic. "Spring Home Range, Spatial Organisation and Activity of Stoats *Mustela Erminea* in a South Island *Nothofagus* Forest, New Zealand." *Ecography* 21, no. 1 (February 1998): 18–24. <https://doi.org/10.1111/j.1600-0587.1998.tb00390.x>.
- Andersen, Reidar, and John D Linnell. "Ecological Correlates of Mortality of Roe Deer Fawns in a Predator-Free Environment." *Canadian Journal of Zoology* 76, no. 7 (July 1998): 1217–25. <https://doi.org/10.1139/z98-067>.
- Anderson, Sheila S., John R. Baker, John H. Prime, and Anna Baird. "Mortality in Grey Seal Pups: Incidence and Causes." *Journal of Zoology* 189, no. 3 (August 20, 2009): 407–17. <https://doi.org/10.1111/j.1469-7998.1979.tb03972.x>.
- Andersson, Annelie, Anna Valros, Johan Rombin, and Per Jensen. "Extensive Infanticide in Enclosed European Wild Boars (*Sus Scrofa*)." *Applied Animal Behaviour Science* 134, no. 3–4 (November 2011): 184–92. <https://doi.org/10.1016/j.applanim.2011.08.001>.
- Andres Link, Anthony Di Fiore, Stephanie N S. "Female-Directed Aggression and Social Control in Spider Monkeys." In *Sexual Coercion in Primates and Humans: An Evolutionary Perspective on Male Aggression against Females*, edited by artin N. Muller, Richard W. Wrangham, 157–83. Boston: Harvard University Press, 2009.
- Andrews, Josephine. "Infanticide by a Female Black Lemur, *Eulemur Macaco*, in Disturbed Habitat on Nosy Be, North-Western Madagascar." *Folia Primatologica* 69, no. 1 (1998): 14–17. <https://doi.org/10.1159/000052694>.
- Angst, W., and D. Thommen. "New Data and a Discussion of Infant Killing in Old World Monkeys and Apes." *Folia Primatologica* 27, no. 3 (1977): 198–229. <https://doi.org/10.1159/000155787>.
- Archie, Elizabeth A., Thomas A. Morrison, Charles A.H. Foley, Cynthia J. Moss, and Susan C. Alberts. "Dominance Rank Relationships among Wild Female African Elephants, *Loxodonta Africana*." *Animal Behaviour* 71, no. 1 (January 2006): 117–27. <https://doi.org/10.1016/j.anbehav.2005.03.023>.

- Arlet, Małgorzata E., Freerk Molleman, Lynne A. Isbell, Rebecca L. Chancellor, James R. Carey, and Raivo Mänd. "Correlations between Social Context and Fecal Glucocorticoid Metabolite Concentrations in Free-Ranging Female Gray-Cheeked Mangabeys (*Lophocebus Albigena*) in Kibale National Park, Uganda." *Folia Biologica* 61, no. 3 (August 30, 2013): 239–46. https://doi.org/10.3409/fb61_3-4.239.
- Aureli, Filippo, Anthony Di Fiore, Evin Murillo-Chacon, Shoji Kawamura, and Colleen M. Schaffner. "Male Philopatry in Spider Monkeys Revisited." *American Journal of Physical Anthropology* 152, no. 1 (September 2013): 86–95. <https://doi.org/10.1002/ajpa.22331>.
- Averbeck, Christiane. "Population Ecology of Impala (*Aepyceros Melampus*) and Community-Based Wildlife Conservation in Uganda." Doctoral Dissertation, Technische Universität München, 2001. <https://mediatum.ub.tum.de/doc/603260/document.pdf>.
- Baden, Andrea L., Patricia C. Wright, Edward E. Louis, and Brenda J. Bradley. "Communal Nesting, Kinship, and Maternal Success in a Social Primate." *Behavioral Ecology and Sociobiology* 67, no. 12 (December 2013): 1939–50. <https://doi.org/10.1007/s00265-013-1601-y>.
- Baharav, Dan. "Reproductive Strategies in Female Mountain and Dorcas Gazelles (*Gazella Gazella Gazella* and *Gazella Dorcas*)." *Journal of Zoology* 200, no. 4 (August 20, 2009): 445–53. <https://doi.org/10.1111/j.1469-7998.1983.tb02808.x>.
- Baldi, R., C. Campagna, S. Pedraza, and Burney J. Le Boeuf. "Social Effects of Space Availability on the Breeding Behaviour of Elephant Seals in Patagonia." *Animal Behaviour* 51, no. 4 (April 1, 1996): 717–24. <https://doi.org/10.1006/anbe.1996.0075>.
- Barnett, S. A. "An Analysis of Social Behaviour in Wild Rats." *Proceedings of the Zoological Society of London* 130, no. 1 (January 1, 1958): 107–52. <https://doi.org/10.1111/j.1096-3642.1958.tb00565.x>.
- Barrette, Cyrille, and Denis Vandal. "Social Rank, Dominance, Antler Size, and Access to Food in Snow-Bound Wild Woodland Caribou." *Behaviour* 97, no. 1/2 (1986): 118–46.
- Barton, Robert A., and Isabella Capellini. "Maternal Investment, Life Histories, and the Costs of Brain Growth in Mammals." *Proceedings of the National Academy of Sciences of the United States of America* 108, no. 15 (April 12, 2011): 6169–74. <https://doi.org/10.1073/pnas.1019140108>.
- Beaudrot, Lydia H., Sonya M. Kahlenberg, and Andrew J. Marshall. "Why Male Orangutans Do Not Kill Infants." *Behavioral Ecology and Sociobiology* 63, no. 11 (September 2009): 1549–62. <https://doi.org/10.1007/s00265-009-0827-1>.
- Beauplet, Gwenaël, Christophe Barbraud, Magaly Chambellant, and Christophe Guinet. "Interannual Variation in the Post-Weaning and Juvenile Survival of Subantarctic Fur Seals: Influence of Pup Sex, Growth Rate and Oceanographic Conditions." *Journal of Animal Ecology* 74, no. 6 (November 2005): 1160–72. <https://doi.org/10.1111/j.1365-2656.2005.01016.x>.
- Begg, C. M., K. S. Begg, J. T. Du Toit, and M. G. L. Mills. "Spatial Organization of the Honey Badger *Mellivora Capensis* in the Southern Kalahari: Home-Range Size

- and Movement Patterns.” *Journal of Zoology* 265, no. 1 (January 2005): 23–35. <https://doi.org/10.1017/S0952836904005989>.
- Bercovitch, F. B., and P. S. M. Berry. “Age Proximity Influences Herd Composition in Wild Giraffe: Giraffe Herds and Age Proximity.” *Journal of Zoology* 290, no. 4 (August 2013): 281–86. <https://doi.org/10.1111/jzo.12039>.
- Bergeron, P., D. Réale, M. M. Humphries, and D. Garant. “Evidence of Multiple Paternity and Mate Selection for Inbreeding Avoidance in Wild Eastern Chipmunks.” *Journal of Evolutionary Biology* 24, no. 8 (August 2011): 1685–94. <https://doi.org/10.1111/j.1420-9101.2011.02294.x>.
- Bergstrom, Mackenzie L., and Linda M. Fedigan. “Dominance among Female White-Faced Capuchin Monkeys (*Cebus Capucinus*): Hierarchical Linearity, Nepotism, Strength and Stability.” *Behaviour* 147, no. 7 (2010): 899–931.
- Berman, Carol M., Consuel S. Ionica, and Jinhua Li. “Dominance Style Among *Macaca Thibetana* on Mt. Huangshan, China.” *International Journal of Primatology* 25, no. 6 (n.d.): 1283–1312. <https://doi.org/10.1023/B:IJOP.0000043963.77801.c3>.
- Berman, Carol M., Jinhua Li, Hideshi Ogawa, Consuel Ionica, and Huabao Yin. “Primate Tourism, Range Restriction, and Infant Risk Among *Macaca Thibetana* at Mt. Huangshan, China.” *International Journal of Primatology* 28, no. 5 (November 13, 2007): 1123–41. <https://doi.org/10.1007/s10764-007-9199-4>.
- Bernstein, I. S., and M. A. Cooper. “Dominance in Assamese Macaques (*Macaca Assamensis*).” *American Journal of Primatology* 48, no. 4 (1999): 283–89. [https://doi.org/10.1002/\(SICI\)1098-2345\(1999\)48:4<283::AID-AJP3>3.0.CO;2-4](https://doi.org/10.1002/(SICI)1098-2345(1999)48:4<283::AID-AJP3>3.0.CO;2-4).
- Bernstein, Irwin S. “Stability of the Status Hierarchy in a Pigtail Monkey Group (*Macaca Nemestrina*).” *Animal Behaviour* 17 (August 1, 1969): 452–58. [https://doi.org/10.1016/0003-3472\(69\)90146-8](https://doi.org/10.1016/0003-3472(69)90146-8).
- Beudels, Roseline C., Sarah M. Durant, and John Harwood. “Assessing the Risks of Extinction for Local Populations of Roan Antelope *Hippotragus Equinus*.” *Biological Conservation* 61, no. 2 (1992): 107–16. [https://doi.org/10.1016/0006-3207\(92\)91100-7](https://doi.org/10.1016/0006-3207(92)91100-7).
- Blanchard, R. J., K. J. Flannelly, and D. C. Blanchard. “Life-Span Studies of Dominance and Aggression in Established Colonies of Laboratory Rats.” *Physiology & Behavior* 43, no. 1 (1988): 1–7.
- Blumstein, Dan. “The Evolution of Infanticide in Rodents: A Comparative Analysis.” In *Infanticide by Males and Its Implications*, edited by Janson van Schaik, C.P. C.H. Cambridge: Cambridge University Press, n.d.
- Blumstein, DT. “The Evolution of Infanticide in Rodents: A Comparative Analysis,” Cambridge University Press., 178–98. Cambridge: van Schaik CP and Janson CH, 2000.
- Boeuf, Burney J. Le, Ronald J. Whiting, and Richard F. Gantt. “Perinatal Behavior of Northern Elephant Seal Females and Their Young.” *Behaviour* 43, no. 3 (January 1, 1973): 121–56. <https://doi.org/10.1163/156853973X00508>.
- Bohn, Kirsten M., Cynthia F. Moss, and Gerald S. Wilkinson. “Pup Guarding by Greater Spear-Nosed Bats.” *Behavioral Ecology and Sociobiology* 63, no. 12 (October 2009): 1693–1703. <https://doi.org/10.1007/s00265-009-0776-8>.

- Boinski, Sue, Karen Sughrue, Lara Selvaggi, Robert Quatrone, Malinda Henry, and Susan Cropp. "An Expanded Test of the Ecological Model of Primate Social Evolution: Competitive Regimes and Female Bonding in Three Species of Squirrel Monkeys (*Saimiri Oerstedii*, *S. Boliviensis* and *S. Sciureus*)." *Behaviour* 139, no. 2 (February 1, 2002): 227–61. <https://doi.org/10.1163/156853902760102663>.
- Boness, Daryl J. "Fostering Behavior in Hawaiian Monk Seals: Is There a Reproductive Cost?" *Behavioral Ecology and Sociobiology* 27, no. 2 (August 1990): 113–22. <https://doi.org/10.1007/BF00168454>.
- Boonstra, Rudy. "Effect of adult Townsend voles (*Microtus townsendii*) on survival of young." *Ecology* 59.2 (1978): 242-248. <https://doi.org/10.2307/1936369>
- Borries, Carola, Tommaso Savini, and Andreas Koenig. "Social Monogamy and the Threat of Infanticide in Larger Mammals." *Behavioral Ecology and Sociobiology* 65, no. 4 (April 2011): 685–93. <https://doi.org/10.1007/s00265-010-1070-5>.
- Botero, Carlos A., Roi Dor, Christy M. McCain, and Rebecca J. Safran. "Environmental Harshness Is Positively Correlated with Intraspecific Divergence in Mammals and Birds." *Molecular Ecology* 23, no. 2 (February 2014): 259–68. <https://doi.org/10.1111/mec.12572>.
- Bradshaw, Corey J. A., Richard J. Barker, Robert G. Harcourt, and Lloyd S. Davis. "Estimating Survival and Capture Probability of Fur Seal Pups Using Multistate Mark-Recapture Models." *Journal of Mammalogy* 84, no. 1 (February 2003): 65–80. [https://doi.org/10.1644/1545-1542\(2003\)084<0065:ESACPO>2.0.CO;2](https://doi.org/10.1644/1545-1542(2003)084<0065:ESACPO>2.0.CO;2).
- Brain, C. "Deaths in a Desert Baboon Troop." *International Journal of Primatology* 13, no. 6 (1992): 593–99.
- Brody, A. K., & Melcher, J. "Infanticide in yellow-bellied marmots." *Animal Behaviour* 33, no. 2 (1985): 673-674.
- Bromley, Peter T. "Manifestations of Social Dominance in Pronghorn Bucks." *Applied Animal Behaviour Science* 29, no. 1 (February 1, 1991): 147–64. [https://doi.org/10.1016/0168-1591\(91\)90243-Q](https://doi.org/10.1016/0168-1591(91)90243-Q).
- Brotherton, Peter N.M, and Martha B Manser. "Female Dispersion and the Evolution of Monogamy in the Dik-Dik." *Animal Behaviour* 54, no. 6 (December 1997): 1413–24. <https://doi.org/10.1006/anbe.1997.0551>.
- Bruemmer, F. "Rough Rookeries." *Natural History* 103 (1994): 26–33.
- Camenzind F.J. in *Coyotes: Biology, Behavior, and Management*, M. Bekoff, Ed. (Academic Press, New York, 1978), pp. 267-294.
- Cant, Michael A., Hazel J. Nichols, Rufus A. Johnstone, and Sarah J. Hodge. "Policing of Reproduction by Hidden Threats in a Cooperative Mammal." *Proceedings of the National Academy of Sciences* 111, no. 1 (January 7, 2014): 326–30. <https://doi.org/10.1073/pnas.1312626111>.
- Cantoni, Debora, and Peter Vogel. "Social Organization and Mating System of Free-Ranging, Greater White-Toothed Shrews, *Crocidura russula*." *Animal Behaviour* 38, no. 2 (August 1989): 205–14. [https://doi.org/10.1016/S0003-3472\(89\)80083-1](https://doi.org/10.1016/S0003-3472(89)80083-1).

- Carter, Kerryn D., Jennifer M. Seddon, Celine H. Frère, John K. Carter, and Anne W. Goldizen. "Fission–Fusion Dynamics in Wild Giraffes May Be Driven by Kinship, Spatial Overlap and Individual Social Preferences." *Animal Behaviour* 85, no. 2 (February 2013): 385–94. <https://doi.org/10.1016/j.anbehav.2012.11.011>.
- Chanan-Khan, Asher. "Bcl-2 Antisense Therapy in Hematologic Malignancies." *Current Opinion in Oncology* 16, no. 6 (November 2004): 581–85.
- Chancellor, Rebecca L., and Lynne A. Isbell. "Food Site Residence Time and Female Competitive Relationships in Wild Gray-Cheeked Mangabeys (<Emphasis Type="Italic">Lophocebus Albigena</Emphasis>)." *Behavioral Ecology and Sociobiology* 63, no. 10 (August 1, 2009): 1447–58. <https://doi.org/10.1007/s00265-009-0805-7>.
- Cheney, Dorothy L. "The Acquisition of Rank and the Development of Reciprocal Alliances among Free-Ranging Immature Baboons." *Behavioral Ecology and Sociobiology* 2, no. 3 (September 1, 1977): 303–18. <https://doi.org/10.1007/BF00299742>.
- Cheney, Dorothy L., et al. "Reproduction, mortality, and female reproductive success in chacma baboons of the Okavango Delta, Botswana." *Reproduction and fitness in baboons: Behavioral, ecological, and life history perspectives*. Springer, Boston, MA, 2006. 147-176.
- Clarke, F. M., G. H. Miethe, and N. C. Bennett. "Reproductive Suppression in Female Damaraland Mole-Rats *Cryptomys Damarensis*: Dominant Control or Self-Restraint?" *Proceedings of the Royal Society B: Biological Sciences* 268, no. 1470 (May 7, 2001): 899–909. <https://doi.org/10.1098/rspb.2000.1426>.
- Clutton-Brock, T. H., P. N. M. Brotherton, A. F. Russell, M. J. O’Riain, D. Gaynor, R. Kansky, A. Griffin, et al. "Cooperation, Control, and Concession in Meerkat Groups." *Science* 291, no. 5503 (January 19, 2001): 478–81. <https://doi.org/10.1126/science.291.5503.478>.
- Clutton-Brock, T. H., P. N. Brotherton, R. Smith, G. M. McIlrath, R. Kansky, D. Gaynor, M. J. O’Riain, and J. D. Skinner. "Infanticide and Expulsion of Females in a Cooperative Mammal." *Proceedings. Biological Sciences* 265, no. 1412 (December 7, 1998): 2291–95. <https://doi.org/10.1098/rspb.1998.0573>.
- Clutton-Brock, T. H., and E. Huchard. "Social Competition and Selection in Males and Females." *Philosophical Transactions of the Royal Society B: Biological Sciences* 368, no. 1631 (December 5, 2013). <https://doi.org/10.1098/rstb.2013.0074>.
- Clutton-Brock, T., and E. Huchard. "Social Competition and Its Consequences in Female Mammals." *Journal of Zoology* 289, no. 3 (March 1, 2013): 151–71. <https://doi.org/10.1111/jzo.12023>.
- Clutton-Brock, Tim. "Sexual Selection in Males and Females." *Science* 318, no. 5858 (December 21, 2007): 1882–85. <https://doi.org/10.1126/science.1133311>.
- Collins, DA, Busse, C.D., and Goodall, J. "Infanticide in Two Populations of Savanna Baboon." In *Infanticide: Comparative and Evolutionary Perspectives*, edited by Hrdy Hausfater, G. S. New York: Aldine, 1984.

- Cooper, Matthew A., and Irwin S. Bernstein. "Evaluating Dominance Styles in Assamese and Rhesus Macaques." *International Journal of Primatology* 29, no. 1 (February 1, 2008): 225–43. <https://doi.org/10.1007/s10764-008-9236-y>.
- Corbett, Laurence K. "Social Dynamics of a Captive Dingo Pack: Population Regulation by Dominant Female Infanticide." *Ethology* 78, no. 3 (January 12, 1988): 177–98. <https://doi.org/10.1111/j.1439-0310.1988.tb00229.x>.
- Culot, Laurence, Yvan Lledo-Ferrer, Oda Hoelscher, Fernando J. J. Muñoz Lazo, Marie-Claude Huynen, and Eckhard W. Heymann. "Reproductive Failure, Possible Maternal Infanticide, and Cannibalism in Wild Moustached Tamarins, *Saguinus Mystax*." *Primates* 52, no. 2 (April 2011): 179–86. <https://doi.org/10.1007/s10329-011-0238-6>.
- Cuthbert, Richard, and Erica Sommer. "Home Range, Territorial Behaviour and Habitat Use of Stoats (*Mustela Erminea*) in a Colony of Hutton's Shearwater (*Puffinus Huttoni*), New Zealand." *New Zealand Journal of Zoology* 29, no. 2 (January 2002): 149–60. <https://doi.org/10.1080/03014223.2002.9518298>.
- Creel, Scott, and Nancy Marusha Creel. "Six ecological factors that may limit African wild dogs, *Lycaon pictus*." *Animal Conservation* 1.1 (1998): 1-9. <https://doi.org/10.1111/j.1469-1795.1998.tb00220.x>
- De Vleeschouwer, Kristel, Linda Van Elsacker, and Kristin Leus. "Multiple Breeding Females in Captive Groups of Golden-Headed Lion Tamarins (*Leontopithecus Chrysomelas*): Causes and Consequences." *Folia Primatologica* 72, no. 1 (2001): 1–10. <https://doi.org/10.1159/000049913>.
- Di Fiore, A, and D Rendall. "Evolution of Social Organization: A Reappraisal for Primates by Using Phylogenetic Methods." *Proceedings of the National Academy of Sciences of the United States of America* 91, no. 21 (October 11, 1994): 9941–45. <https://doi.org/10.1073/pnas.91.21.9941>.
- Di Fiore, Anthony, Andres Link, and Pablo R. Stevenson. "Scent Marking in Two Western Amazonian Populations of Woolly Monkeys (*Lagothrix Lagotricha*)." *American Journal of Primatology* 68, no. 6 (June 2006): 637–49. <https://doi.org/10.1002/ajp.20257>.
- Digby, L., Saltzman, W. "Balancing Cooperation and Female-Female Competition in the Common Marmoset, *Callithrix Jacchus*." In *The Smallest Anthropoids: The Marmoset/Callimico Radiation*, edited by Ford, S.M., Porter, L.M., Davis, L.C., 135–53. New York: Springer, 2009.
- Digby, Leslie. "Infant Care, Infanticide, and Female Reproductive Strategies in Polygynous Groups of Common Marmosets (*Callithrix Jacchus*)." *Behavioral Ecology and Sociobiology* 37, no. 1 (July 1, 1995): 51–61. <https://doi.org/10.1007/BF00173899>.
- Digby, Leslie. "Infanticide by Female Mammals: Implications for the Evolution of Social Systems." In *Infanticide by Males and Its Implications*, Cambridge University Press. van Schaik CP and Janson CH, 2000.
- Dinerstein, E., C. Wemmer, and H. Mishra. "Adoption in Greater One-Horned Rhinoceros (*Rhinoceros Unicornis*)." *Journal of Mammalogy* 69, no. 4 (November 29, 1988): 813–14. <https://doi.org/10.2307/1381636>.

- Dittus, Wolfgang P. J. "Sex Differences in Fitness Following a Group Take-over among Toque Macaques: Testing Models of Social Evolution." *Behavioral Ecology and Sociobiology* 19, no. 4 (n.d.): 257–66. <https://doi.org/10.1007/BF00300640>.
- Dittus, Wolfgang P.J. "Group Fission among Wild Toque Macaques as a Consequence of Female Resource Competition and Environmental Stress." *Animal Behaviour* 36, no. 6 (November 1988): 1626–45. [https://doi.org/10.1016/S0003-3472\(88\)80104-0](https://doi.org/10.1016/S0003-3472(88)80104-0).
- Dixon, J. M., and L. Huxley. "Observations on a Maternity Colony of Gould's Wattled Bat *Chalinolobus Gouldii* (Chiroptera: Vespertilionidae)." *Mammalia* 53, no. 3 (1989). <https://doi.org/10.1515/mamm.1989.53.3.395>.
- Doidge, D. W., J. P. Croxall, and J. R. Baker. "Density-Dependent Pup Mortality in the Antarctic Fur Seal *Arctocephalus Gazellu* at South Georgia." *Journal of Zoology* 202, no. 3 (March 1984): 449–60. <https://doi.org/10.1111/j.1469-7998.1984.tb05095.x>.
- Drygala, Frank, Norman Stier, Hinrich Zoller, Henry M. Mix, Kathrin Bögelsack, and Mechthild Roth. "Spatial Organisation and Intra-Specific Relationship of the Raccoon Dog *Nyctereutes Procyonoides* in Central Europe." *Wildlife Biology* 14, no. 4 (December 2008): 457–66. <https://doi.org/10.2981/0909-6396-14.4.457>.
- Drygala, Frank, Hinrich Zoller, Norman Stier, Henry Mix, and Mechthild Roth. "Ranging and Parental Care of the Raccoon Dog *Nyctereutes Procyonoides* during Pup Rearing." *Acta Theriologica* 53, no. 2 (June 2008): 111–19. <https://doi.org/10.1007/BF03194244>.
- Dunbar, R. I. M. "Determinants and Evolutionary Consequences of Dominance among Female Gelada Baboons." *Behavioral Ecology and Sociobiology* 7, no. 4 (November 1, 1980): 253–65. <https://doi.org/10.1007/BF00300665>.
- Ebensperger, L.A., and Blumstein, D.T. "Nonparental Infanticide." In *Rodent Societies: An Ecological and Evolutionary Perspective*, edited by Sherman Wolff, J.O. P., 267–79. Chicago: University of Chicago Press, 2007.
- Ebensperger, L. A., C. Botto-Mahan, and R. H. Tamarin. "Nonparental infanticide in meadow voles, *Microtus pennsylvanicus*: the influence of nutritional benefits." *Ethology Ecology & Evolution* 12.2 (2000): 149-160. <https://doi.org/10.1080/08927014.2000.9522810>
- Ebensperger, Luis A. "Strategies and Counterstrategies to Infanticide in Mammals." *Biological Reviews* 73, no. 3 (January 11, 2007): 321–46. <https://doi.org/10.1111/j.1469-185X.1998.tb00034.x>.
- Ebensperger, Luis A., Adrian S. Chesh, Rodrigo A. Castro, Liliana Ortiz Tolhuysen, Verónica Quirici, Joseph Robert Burger, Raúl Sobrero, and Loren D. Hayes. "Burrow Limitations and Group Living in the Communally Rearing Rodent, *Octodon Degus*." *Journal of Mammalogy* 92, no. 1 (2011): 21–30. <https://doi.org/10.1644/09-MAMM-S-383.1>.
- Eberle, Manfred, and Peter M. Kappeler. "Family Insurance: Kin Selection and Cooperative Breeding in a Solitary Primate (*Microcebus Murinus*)." *Behavioral Ecology and Sociobiology* 60, no. 4 (August 2006): 582–88. <https://doi.org/10.1007/s00265-006-0203-3>.

- Elwood, R.W. and Ostermeyer, M.C., 1984. Infanticide by male and female mongolian gerbils: ontogeny, causation and function G. Hausfater, S.B. Hrdy (Eds.), *Infanticide*, Aldine, New York (1984), pp. 367–386
- Emlen, ST, and LW Oring. “Ecology, Sexual Selection and the Evolution of Mating Systems.” *Science* 197 (1977): 215–23.
- Engh, Anne, Esch, Katrina, Smale, and Holekamp, Kay. “Mechanisms of Maternal Rank ‘inheritance’ in the Spotted Hyaena, *Crocuta Crocuta*.” *Animal Behaviour* 60, no. 3 (September 2000): 323–32. <https://doi.org/10.1006/anbe.2000.1502>.
- Enstam, K.L., Isbell, L.A., De Maar, T.W. “Male Demography, Female Mating Behavior, and Infanticide in Wild Patas Monkeys (*Erythrocebus Patas*).” *International Journal of Primatology* 23, no. 1 (2002): 85–104.
- Erb, J., Sampson, B., and Coy, P. “Reproductive Ecology of Fisher and Marten in Minnesota.” *Minn. Dep. Nat. Resour. Summ. Wildl. Res. Findings*, no. 2009 (2010): 24–31.
- Erhard, E.M., and Overdorff, D.J. “Infanticide in *Propithecus Diadema Edwardsi*: An Evaluation of the Sexual Selection Hypothesis.” *International Journal of Primatology* 19 (1998): 73–81. <https://doi.org/10.1023/A:1020306910493>.
- Erhart, Elizabeth M., and Deborah J. Overdorff. “Rates of Agonism by Diurnal Lemuroids: Implications for Female Social Relationships.” *International Journal of Primatology* 29, no. 5 (October 1, 2008): 1227–47. <https://doi.org/10.1007/s10764-008-9287-0>.
- Escherich, P.C. “Social Structure in Bushy-Tailed Wood Rat.” *American Zoologist* 15 (1975): 821–821.
- Estes, Richard D., and Runhild K. Estes. “The Birth and Survival of Wildebeest Calves.” *Zeitschrift Für Tierpsychologie* 50, no. 1 (April 26, 2010): 45–95. <https://doi.org/10.1111/j.1439-0310.1979.tb01015.x>.
- Luca, D. W. de, and J. R. Ginsberg. “Dominance, Reproduction and Survival in Banded Mongooses: Towards an Egalitarian Social System?” *Animal Behaviour* 61, no. 1 (January 1, 2001): 17–30. <https://doi.org/10.1006/anbe.2000.1559>.
- Fairbanks, W. Sue. “Dominance, Age and Aggression among Female Pronghorn, *Antilocapra Americana* (Family: Antilocapridae).” *Ethology* 97, no. 4 (January 12, 1994): 278–93. <https://doi.org/10.1111/j.1439-0310.1994.tb01047.x>.
- Faulkes, Chris G., and Nigel C. Bennett. “Family values: group dynamics and social control of reproduction in African mole-rats.” *Trends in Ecology & Evolution* 16.4 (2001): 184–190. [https://doi.org/10.1016/S0169-5347\(01\)02116-4](https://doi.org/10.1016/S0169-5347(01)02116-4)
- Ferreira, Renata G., Patrícia Izar, and Phyllis C. Lee. “Exchange, Affiliation, and Protective Interventions in Semifree-Ranging Brown Capuchin Monkeys (*Cebus Apella*).” *American Journal of Primatology* 68, no. 8 (August 1, 2006): 765–76. <https://doi.org/10.1002/ajp.20277>.
- Fietz, J., H. Zischler, C. Schwegk, J. Tomiuk, K. H. Dausmann, and J. U. Ganzhorn. “High Rates of Extra-Pair Young in the Pair-Living Fat-Tailed Dwarf Lemur, *Cheirogaleus Medius*.” *Behavioral Ecology and Sociobiology* 49, no. 1 (December 4, 2000): 8–17. <https://doi.org/10.1007/s002650000269>.

- Fietz, Joanna, and Kathrin H. Dausmann. "Costs and Potential Benefits of Parental Care in the Nocturnal Fat-Tailed Dwarf Lemur (*Cheirogaleus Medius*)." *Folia Primatologica* 74, no. 5–6 (2003): 246–58. <https://doi.org/10.1159/000073312>.
- Fiore, Anthony Di, and Robert C. Fleischer. "Social Behavior, Reproductive Strategies, and Population Genetic Structure of *Lagothrix Poeppigii*." *International Journal of Primatology* 26, no. 5 (October 1, 2005): 1137–73. <https://doi.org/10.1007/s10764-005-6462-4>.
- Fleming, P.A., Nicolson, S.W. "Sex Differences in Space Use, Body Condition and Survivorship during the Breeding Season in the Namaqua Rock Mouse, *Aethomys Namaquensis*." *African Zoology* 39, no. 1 (n.d.): 123–32.
- Fleming, Alison S. "Maternal nest defense in the desert woodrat *Neotoma lepida*." *Behavioral and Neural Biology* 26.1 (1979): 41-63. [https://doi.org/10.1016/S0163-1047\(79\)92868-1](https://doi.org/10.1016/S0163-1047(79)92868-1)
- Flynn, J. J. "Riedman, M. L., and J. A. Estes. 1990. THE SEA OTTER (*ENHYDRA LUTRIS*): Behavior, Ecology, and Natural History. United States Fish and Wildlife Service, Biological Report, 90(14): 1-126. ISSN 0895-1926." *Journal of Mammalogy* 76, no. 1 (February 23, 1995): 263–64. <https://doi.org/10.2307/1382334>.
- Foerster, Steffen, Mathias Franz, Carson M. Murray, Ian C. Gilby, Joseph T. Feldblum, Kara K. Walker, and Anne E. Pusey. "Chimpanzee Females Queue but Males Compete for Social Status." *Scientific Reports* 6 (October 14, 2016). <https://doi.org/10.1038/srep35404>.
- Foltz, David W. "Genetic Evidence for Long-Term Monogamy in a Small Rodent, *Peromyscus Polionotus*." *The American Naturalist* 117, no. 5 (May 1981): 665–75. <https://doi.org/10.1086/283751>.
- Fuentes, A. "Patterns and Trends in Primate Pair Bonds." *International Journal of Primatology* 23, no. 5 (2002): 953–78. <https://doi.org/10.1023/A:1019647514080>.
- Furuichi, T., Idani, G., Idobe, H., Hashimoto, C., Tashiro, Y., Sakamaki, T., Mulavwa, M. N., Yangozene, K., and Kuroda, S. "Long-Term Studies on Wild Bonobos at Wamba, Luo Scientific Reserve, D.R. Congo." In *Long-Term Field Studies of Primates*, edited by Kappeler, P. M., Watts, D. Berlin: Springer, 2012.
- Furuichi, Takeshi. "Agonistic Interactions and Matrifocal Dominance Rank of Wild Bonobos (*Pan Paniscus*) at Wamba." *International Journal of Primatology* 18, no. 6 (December 1, 1997): 855–75. <https://doi.org/10.1023/A:1026327627943>.
- Gaillard, J.-M., M. Festa-Bianchet, N. G. Yoccoz, A. Loison, and C. Toïgo. "Temporal Variation in Fitness Components and Population Dynamics of Large Herbivores." *Annual Review of Ecology and Systematics* 31, no. 1 (November 2000): 367–93. <https://doi.org/10.1146/annurev.ecolsys.31.1.367>.
- Galat-Luong, A. & Galat, G. "Consequences Comportementales Des Perturbations Sociales Repetees Sur Une Troupe de Mones de Lowe, *Cercopithecus Campbelli* Lowei, de Cote d'Ivoire." *Terre et Vie* 33 (1979): 4–57.

- Gantt, Richard F., Burney J. Le Boeuf, and Ronald J. Whiting. "Perinatal Behavior of Northern Elephant Seal Females and Their Young." *Behaviour* 43, no. 3 (January 1, 1973): 121–56. <https://doi.org/10.1163/156853973X00508>.
- Garcia-Diaz, P., and Lizana, M. "Field Observation of Male Infanticide in the American Mink." *North-Western Journal of Zoology* 9 (2013): 438–40.
- Gerlach, Gabriele, and Susann Bartmann. "Reproductive skew, costs, and benefits of cooperative breeding in female wood mice (*Apodemus sylvaticus*)." *Behavioral Ecology* 13.3 (2002): 408-418. <https://doi.org/10.1093/beheco/13.3.408>
- Gibbens, J., and J.P.Y. Arnould. "Age-Specific Growth, Survival, and Population Dynamics of Female Australian Fur Seals." *Canadian Journal of Zoology* 87, no. 10 (October 2009): 902–11. <https://doi.org/10.1139/Z09-080>.
- Gilchrist, Jason S. "Female Eviction, Abortion, and Infanticide in Banded Mongooses (*Mungos Mungo*): Implications for Social Control of Reproduction and Synchronized Parturition." *Behavioral Ecology* 17, no. 4 (July 1, 2006): 664–69. <https://doi.org/10.1093/beheco/ark012>.
- Glatston, A. R., ed. *Red Panda: Biology and Conservation of the First Panda*. 1. ed. Amsterdam: Academic Press, 2011.
- Goldman, L., and Heidi Swanson. "Population control in confined colonies of golden hamsters (*Mesocricetus auratus* Waterhouse)." *Zeitschrift für Tierpsychologie* 37.3 (1975): 225-236. <https://doi.org/10.1111/j.1439-0310.1975.tb00878.x>
- Goodall, J. *The Chimpanzees of Gombe: Patterns and Behaviour*. Cambridge: Harvard University Press, 1996.
- Goodall, Jane. *The Chimpanzees of Gombe: Patterns of Behavior*. Belknap Press of Harvard University Press, 1986.
- Gouzoules, Harold. "Maternal Rank and Early Social Interactions of Infant Stumptail Macaques, *Macaca Arctoides*." *Primates* 16, no. 4 (December 1, 1975): 405–18. <https://doi.org/10.1007/BF02382739>.
- Gray, David Robert. *The Muskoxen of Polar Bear Pass*. Fitzhenry & Whiteside, 1987.
- Guinness, F. E., T. H. Clutton-Brock, and S. D. Albon. "Factors Affecting Calf Mortality in Red Deer (*Cervus Elaphus*)." *The Journal of Animal Ecology* 47, no. 3 (October 1978): 817. <https://doi.org/10.2307/3673>.
- Hämäläinen, Anni, Michael Heistermann, and Cornelia Kraus. "The Stress of Growing Old: Sex- and Season-Specific Effects of Age on Allostatic Load in Wild Grey Mouse Lemurs." *Oecologia* 178, no. 4 (2015): 1063–75. <https://doi.org/10.1007/s00442-015-3297-3>.
- Harcourt, Robert. "Maternal Aggression in the South American Fur Seal in Peru." *Canadian Journal of Zoology* 70, no. 2 (February 1992): 320–25. <https://doi.org/10.1139/z92-048>.
- Harding, Lee E. "Trachypithecus Cristatus (Primates: Cercopithecidae)." *Mammalian Species* 42 (January 25, 2010): 149–65. <https://doi.org/10.1644/862.1>.
- Hausfater, G., J. Altmann, and S. Altmann. "Long-Term Consistency of Dominance Relations Among Female Baboons (*Papio Cynocephalus*)." *Science (New York,*

- N.Y.) 217, no. 4561 (August 20, 1982): 752–55. <https://doi.org/10.1126/science.217.4561.752>.
- Heise, Sigrid, and Jessica Lippke. "Role of Female Aggression in Prevention of Infanticidal Behavior in Male Common Voles, *Microtus Arvalis* (Pallas, 1779)." *Aggressive Behavior* 23, no. 4 (1997): 293–98. [https://doi.org/10.1002/\(SICI\)1098-2337\(1997\)23:4<293::AID-AB6>3.0.CO;2-L](https://doi.org/10.1002/(SICI)1098-2337(1997)23:4<293::AID-AB6>3.0.CO;2-L).
- Hellstedt, P., and H. Henttonen. "Home Range, Habitat Choice and Activity of Stoats (*Mustela Erminea*) in a Subarctic Area." *Journal of Zoology* 0, no. 0 (March 16, 2006): 060316061830001-???. <https://doi.org/10.1111/j.1469-7998.2006.00072.x>.
- Hendrichs, Hubert. "Changes in a Population of Dikdik, *Madoqua* (*Rhynchotragus*) Kirki (Günther 1880)." *Zeitschrift Für Tierpsychologie* 38, no. 1 (April 26, 2010): 55–69. <https://doi.org/10.1111/j.1439-0310.1975.tb01992.x>.
- Hennessy, Michael B., Gesa Neisen, Katie L. Bullinger, Sylvia Kaiser, and Norbert Sachser. "Social Organization Predicts Nature of Infant-Adult Interactions in Two Species of Wild Guinea Pigs (*Cavia Aperea* and *Galea Monasteriensis*)." *Journal of Comparative Psychology* 120, no. 1 (2006): 12–18. <https://doi.org/10.1037/0735-7036.120.1.12>.
- Henry, MaLinda D., Sarah J. Hankerson, Jennifer M. Siani, Jeffrey A. French, and James M. Dietz. "High Rates of Pregnancy Loss by Subordinates Leads to High Reproductive Skew in Wild Golden Lion Tamarins (*Leontopithecus Rosalia*)." *Hormones and Behavior* 63, no. 5 (May 2013): 675–83. <https://doi.org/10.1016/j.yhbeh.2013.02.009>.
- Henzi, S.P., and M. Lawes. "Breeding Season Influxes and the Behaviour of Adult Male Samango Monkeys (*Cercopithecus Mitis Albogularis*)." *Folia Primatologica* 48, no. 3–4 (1987): 125–36. <https://doi.org/10.1159/000156290>.
- Herrera, Emilio A., Viviana Salas, Elizabeth R. Congdon, María José Corriale, and Zuleyma Tang-Martínez. "Capybara Social Structure and Dispersal Patterns: Variations on a Theme." *Journal of Mammalogy* 92, no. 1 (February 16, 2011): 12–20. <https://doi.org/10.1644/09-MAMM-S-420.1>.
- Herrera, Em̄rita R. Tirado, Christoph Knogge, and Eckhard W. Heymann. "Infanticide in a Group of Wild Saddle-Back Tamarins, *Saguinus Fuscicollis*." *American Journal of Primatology* 50, no. 2 (February 2000): 153–57. [https://doi.org/10.1002/\(SICI\)1098-2345\(200002\)50:2<153::AID-AJP5>3.0.CO;2-#](https://doi.org/10.1002/(SICI)1098-2345(200002)50:2<153::AID-AJP5>3.0.CO;2-#).
- Higgins, L.V., and Tedman, R.A. "Attacks on Pups by Male Australian Sea Lions, *Neophoca Cinerea*, and the Effect on Pup Mortality." *Marine Mammal Science* 71 (1990): 617–19.
- Hilário, Renato R., and Stephen F. Ferrari. "Double Infanticide in a Free-Ranging Group of Buffy-Headed Marmosets, *Callithrix Flaviceps*." *Journal of Ethology* 28, no. 1 (January 2010): 195–99. <https://doi.org/10.1007/s10164-009-0182-8>.
- Hill, Davina L., Neville Pillay, and Carsten Schradin. "Alternative reproductive tactics in female striped mice: heavier females are more likely to breed solitarily than communally." *Journal of Animal Ecology* 84.6 (2015): 1497-1508. <https://doi.org/10.1111/1365-2656.12431>

- Hirsch, Ben T. "Spoiled Brats: Is Extreme Juvenile Agonism in Ring-Tailed Coatis (*Nasua Nasua*) Dominance or Tolerated Aggression?" *Ethology* 113, no. 5 (May 1, 2007): 446–56. <https://doi.org/10.1111/j.1439-0310.2007.01348.x>.
- Hiruki, Lisa M., William G. Gilmartin, Brenda L. Becker, and Ian Stirling. "Wounding in Hawaiian Monk Seals (*Monachus Schauinslandi*)." *Canadian Journal of Zoology* 71, no. 3 (March 1993): 458–68. <https://doi.org/10.1139/z93-066>.
- Hodge, S. J., M. B. V. Bell, and M. A. Cant. "Reproductive competition and the evolution of extreme birth synchrony in a cooperative mammal." *Biology letters* 7.1 (2011): 54-56. <https://doi.org/10.1098/rsbl.2010.0555>
- Hofer, H., East, M. "Population Dynamics, Population Size, and the Commuting System of the Serengeti Spotted Hyenas." In *Serengeti II: Dynamics, Management, and Conservation of an Ecosystem*, edited by Sinclair, A.R.E., Arcese, P., 332–63. London: University of Chicago Press, 1995.
- Holleley, C. E., C. R. Dickman, M. S. Crowther, and B. P. Oldroyd. "Size Breeds Success: Multiple Paternity, Multivariate Selection and Male Semelparity in a Small Marsupial, *Antechinus Stuartii*: MULTIPLE PATERNITY and SELECTION IN ANTECHINUS." *Molecular Ecology* 15, no. 11 (July 24, 2006): 3439–48. <https://doi.org/10.1111/j.1365-294X.2006.03001.x>.
- Hoogland, J. L. "Infanticide in Prairie Dogs: Lactating Females Kill Offspring of Close Kin." *Science (New York, N.Y.)* 230, no. 4729 (November 29, 1985): 1037–40. <https://doi.org/10.1126/science.230.4729.1037>.
- Hoogland, John L. "Aggression, Ectoparasitism, and Other Possible Costs of Prairie Dog (*Sciuridae*, *Cynomys* Spp.) Coloniality." *Behaviour* 69, no. 1 (January 1, 1979): 1–34. <https://doi.org/10.1163/156853979X00377>.
- Hopkins, David D., and Richard B. Forbes. "Dietary Patterns of the Virginia Opossum in an Urban Environment." *The Murrelet* 61, no. 1 (1980): 20. <https://doi.org/10.2307/3536187>.
- Horrocks, J. A. "Life-History Characteristics of a Wild Population of Vervets (*Cercopithecus Aethiops Sabaeus*) in Barbados, West Indies." *International Journal of Primatology* 7, no. 1 (February 1986): 31–47. <https://doi.org/10.1007/BF02692308>.
- Hrdy, S. B. "Male-Male Competition and Infanticide among the Langurs (*Presbytis Entellus*) of Abu, Rajasthan." *Folia Primatologica; International Journal of Primatology* 22, no. 1 (1974): 19–58.
- Hrdy, Sarah Blaffer. "Care and Exploitation of Nonhuman Primate Infants by Conspecifics Other Than the Mother." In *Advances in the Study of Behavior*, edited by Jay S. Rosenblatt, Robert A. Hinde, Evelyn Shaw, and Colin Beer, 6:101–58. Academic Press, 1976. [https://doi.org/10.1016/S0065-3454\(08\)60083-2](https://doi.org/10.1016/S0065-3454(08)60083-2).
- Hrdy, Sarah Blaffer. "Infanticide among Animals: A Review, Classification, and Examination of the Implications for the Reproductive Strategies of Females." *Ethology and Sociobiology* 1, no. 1 (October 1, 1979): 13–40. [https://doi.org/10.1016/0162-3095\(79\)90004-9](https://doi.org/10.1016/0162-3095(79)90004-9).

- Huck, Maren, and Eduardo Fernandez-Duque. "Children of Divorce: Effects of Adult Replacements on Previous Offspring in Argentinean Owl Monkeys." *Behavioral Ecology and Sociobiology* 66, no. 3 (March 2012): 505–17. <https://doi.org/10.1007/s00265-011-1297-9>.
- Huck, Maren, Marcelo Rotundo, and Eduardo Fernandez-Duque. "Growth and Development in Wild Owl Monkeys (*Aotus Azarai*) of Argentina." *International Journal of Primatology* 32, no. 5 (October 2011): 1133–52. <https://doi.org/10.1007/s10764-011-9530-y>.
- Hunter, L. T.B., and J. D. Skinner. "Do Male Cheetahs *Acinonyx Jubatus* Commit Infanticide?" *Transactions of the Royal Society of South Africa* 58, no. 1 (January 2003): 79–82. <https://doi.org/10.1080/00359190309519937>.
- Isbell, Lynne A., and Jill D. Pruett. "Differences Between Vervets (<Emphasis Type="Italic">Cercopithecus Aethiops</Emphasis>) and Patas Monkeys (<Emphasis Type="Italic">Erythrocebus Patas</Emphasis>) in Agonistic Interactions Between Adult Females." *International Journal of Primatology* 19, no. 5 (October 1, 1998): 837–55. <https://doi.org/10.1023/A:1020393329574>.
- Isbell, Lynne A., and Truman P. Young. "Ecological Models of Female Social Relationships in Primates: Similarities, Disparities, and Some Directions for Future Clarity." *Behaviour* 139, no. 2 (February 1, 2002): 177–202. <https://doi.org/10.1163/156853902760102645>.
- Isbell, Lynne A., Truman P. Young, Karin Enstam Jaffe, Anne A. Carlson, and Rebecca L. Chancellor. "Demography and Life Histories of Sympatric Patas Monkeys, *Erythrocebus Patas*, and Vervets, *Cercopithecus Aethiops*, in Laikipia, Kenya." *International Journal of Primatology* 30, no. 1 (February 2009): 103–24. <https://doi.org/10.1007/s10764-009-9332-7>.
- Izawa, Kosei. "Social Behavior of the Wild Black-Capped Capuchin (<Emphasis Type="Italic">Cebus Apella</Emphasis>)." *Primates* 21, no. 4 (October 1, 1980): 443–67. <https://doi.org/10.1007/BF02373834>.
- Jacques, Christopher N., and Jonathan A. Jenks. "Antipredatory Defense of Neonatal Pronghorn (*Antilocapra Americana*) by Yearling Male Pronghorn in Southwestern South Dakota." *Western North American Naturalist* 70, no. 4 (January 2011): 570–72. <https://doi.org/10.3398/064.070.0418>.
- Janson, Charles. "Aggressive Competition and Individual Food Consumption in Wild Brown Capuchin Monkeys (*Cebus Apella*)." *Behavioral Ecology and Sociobiology* 18, no. 2 (1985): 125–38.
- Jenner, N. "Contributions to Offspring Care by Parents and Helpers in the Black-Backed Jackal (*Canis Mesomelas*)." PhD thesis, University of Kent, 2008.
- Jenkins, Stephen H., and Bruce D. Eshelman. "Spermophilus beldingi." *Mammalian Species* 221 (1984): 1-8. <https://doi.org/10.2307/3503911>
- Johnsingh, A.J.T. "Reproductive and Social Behaviour of the Dhole, *Cuon Alpinus* (Canidae)." *Journal of Zoology* 198, no. 4 (December 1982): 443–63. <https://doi.org/10.1111/jzo.1982.198.4.443>.

- Jolly, A., Caless, S., Gould, L., Pereira, M.E., Pride, R.E., Rabenandrasana, H.D., Walker, J.D., Zafison, Z. "Infant Killing, Wounding and Predation in Eulemur and Lemur." *International Journal of Primatology* 21, no. 1 (2000): 21–40.
- Jones, Kate E., Jon Bielby, Marcel Cardillo, Susanne A. Fritz, Justin O'Dell, C. David L. Orme, Kamran Safi, et al. "PanTHERIA: A Species-Level Database of Life History, Ecology, and Geography of Extant and Recently Extinct Mammals." *Ecology* 90, no. 9 (September 1, 2009): 2648–2648. <https://doi.org/10.1890/08-1494.1>.
- Kamler, Jan F., Warren B. Ballard, Patrick R. Lemons, and Kevin Mote. "Variation in Mating System and Group Structure in Two Populations of Swift Foxes, *Vulpes Velox*." *Animal Behaviour* 68, no. 1 (July 2004): 83–88. <https://doi.org/10.1016/j.anbehav.2003.07.017>.
- Kappeler, Peter M., and Claudia Fichtel. "Female Reproductive Competition in Eulemur Rufifrons: Eviction and Reproductive Restraint in a Plurally Breeding Malagasy Primate." *Molecular Ecology* 21, no. 3 (February 2012): 685–98. <https://doi.org/10.1111/j.1365-294X.2011.05255.x>.
- Karstad, E.L., and R.J. Hudson. "Social Organization and Communication of Riverine Hippopotami in Southwestern Kenya." *Mammalia* 50, no. 2 (1986). <https://doi.org/10.1515/mamm.1986.50.2.153>.
- Kays, Roland W., and John L. Gittleman. "The Social Organization of the Kinkajou Potos Flavus (Procyonidae)." *Journal of Zoology* 253, no. 4 (April 2001): 491–504. <https://doi.org/10.1017/S0952836901000450>.
- Keane, B., P.M. Waser, S.R. Creel, N.M. Creel, L.F. Elliott, and D.J. Minchella. "Subordinate Reproduction in Dwarf Mongooses." *Animal Behaviour* 47, no. 1 (January 1994): 65–75. <https://doi.org/10.1006/anbe.1994.1008>.
- Kilgour, R. Julia, and R. Mark Brigham. "The Relationships between Behavioural Categories and Social Influences in the Gregarious Big Brown Bat (*Eptesicus Fuscus*)." Edited by L. Ebensperger. *Ethology* 119, no. 3 (March 2013): 189–98. <https://doi.org/10.1111/eth.12052>.
- King, Wendy J., and Dominique Allainé. "Social, maternal, and environmental influences on reproductive success in female Alpine marmots (*Marmota marmota*)." *Canadian Journal of Zoology* 80.12 (2002): 2137-2143. <https://doi.org/10.1139/z02-205>
- Kitchen, Ann M., Eric M. Gese, Lisette P. Waits, Seija M. Karki, and Edward R. Schauster. "Multiple Breeding Strategies in the Swift Fox, *Vulpes Velox*." *Animal Behaviour* 71, no. 5 (May 2006): 1029–38. <https://doi.org/10.1016/j.anbehav.2005.06.015>.
- Kleiman, Devra G., and J. Malcolm. "The Evolution of Male Parental Investment in Mammals." In *Parental Care in Mammals*, Plenum Publishing Corporation. Gubernick DJ; Klopfer PH, 1981. <http://repository.si.edu/handle/10088/4324>.
- Kleindorfer, Sonia, and Samuel K. Wasser. "Infant handling and mortality in yellow baboons (*Papio cynocephalus*): evidence for female reproductive competition?." *Behavioral Ecology and Sociobiology* 56.4 (2004): 328-337. <https://doi.org/10.1007/s00265-004-0798-1>

- Knörnschild, Mirjam, Katja Ueberschaer, Maria Helbig, and Elisabeth K. V. Kalko. "Sexually Selected Infanticide in a Polygynous Bat." Edited by Brock Fenton. *PLoS ONE* 6, no. 9 (September 16, 2011): e25001. <https://doi.org/10.1371/journal.pone.0025001>.
- Koehler, C. E., and P. R. K. Richardson. "Proteles Cristatus." *Mammalian Species*, no. 363 (October 23, 1990): 1. <https://doi.org/10.2307/3504197>.
- Koenig, A. "Competitive Regimes in Forest-Dwelling Hanuman Langur Females (<Emphasis Type="Italic">Semnopithecus Entellus</Emphasis>)." *Behavioral Ecology and Sociobiology* 48, no. 2 (July 1, 2000): 93–109. <https://doi.org/10.1007/s002650000198>.
- Kotze, Robynne, Nigel C. Bennett, Elissa Z. Cameron, J. Low de Vries, David G. Marneweck, Christian W.W. Pirk, and Fredrik Dalerum. "Temporal Patterns of Den Use Suggest Polygamous Mating Patterns in an Obligate Monogamous Mammal." *Animal Behaviour* 84, no. 6 (December 2012): 1573–78. <https://doi.org/10.1016/j.anbehav.2012.09.035>.
- Kowalczyk, Rafał, Andrzej Zalewski, Bogumiła Jędrzejewska, Hermann Ansorge, and Aleksei N. Bunevich. "Reproduction and Mortality of Invasive Raccoon Dogs (*Nyctereutes Procyonoides*) in the Białowieża Primeval Forest (Eastern Poland)." *Annales Zoologici Fennici* 46, no. 4 (August 2009): 291–301. <https://doi.org/10.5735/086.046.0406>.
- Koyama, Naoki. "Changes in Dominance Rank and Division of a Wild Japanese Monkey Troop in Arashiyama." *Primates* 11, no. 4 (December 1, 1970): 335–90. <https://doi.org/10.1007/BF01730638>.
- Kraaijeveld, K., F. J. L. Kraaijeveld-Smit, and G. J. Adcock. "Does Female Mortality Drive Male Semelparity in Dasyurid Marsupials?" *Proceedings of the Royal Society B: Biological Sciences* 270, no. Suppl 2 (November 7, 2003): S251–53. <https://doi.org/10.1098/rsbl.2003.0082>.
- Kraus, Cornelia, Fritz Trillmich, and Joachim Künkele. "Reproduction and Growth in a Precocial Small Mammal, *Cavia Magna*." *Journal of Mammalogy* 86, no. 4 (August 2005): 763–72. [https://doi.org/10.1644/1545-1542\(2005\)086\[0763:RAGIAP\]2.0.CO;2](https://doi.org/10.1644/1545-1542(2005)086[0763:RAGIAP]2.0.CO;2).
- Krebs, Charles J., Rudy Boonstra, Stan Boutin, and A.R.E. Sinclair. "What Drives the 10-Year Cycle of Snowshoe Hares?" *BioScience* 51, no. 1 (2001): 25. [https://doi.org/10.1641/0006-3568\(2001\)051\[0025:WDTYCO\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2001)051[0025:WDTYCO]2.0.CO;2).
- Kruchenkova, Elena P., Michael Goltsman, Sergei Sergeev, and David W. Macdonald. "Is Alloparenting Helpful for Mednyi Island Arctic Foxes, *Alopex Lagopus Semenovi*?" *Die Naturwissenschaften* 96, no. 4 (April 2009): 457–66. <https://doi.org/10.1007/s00114-008-0494-5>.
- Kruuk, Hans. *The Spotted Hyena: A Study of Predation and Social Behavior*. Wildlife Behavior and Ecology. Chicago: Univ. of Chicago Press, 1972.
- Künkele, Joachim. "Infanticide in wild rabbits (*Oryctolagus cuniculus*)." *Journal of Mammalogy* 73.2 (1992): 317-320. <https://doi.org/10.2307/1382063>
- Kunz, T.H., and Ebensperger, L.A. "Why Does Infanticide Seem so Rare in Bats?" *Acta Chiropterologica* 1 (1999): 17–29.

- Kutsukake, Nobuyuki. "Matrilineal Rank Inheritance Varies with Absolute Rank in Japanese Macaques." *Primates* 41, no. 3 (July 1, 2000): 321–35. <https://doi.org/10.1007/BF02557601>.
- Lane, Jeffrey E., Stan Boutin, Melissa R. Gunn, Jon Slate, and David W. Coltman. "Female Multiple Mating and Paternity in Free-Ranging North American Red Squirrels." *Animal Behaviour* 75, no. 6 (June 2008): 1927–37. <https://doi.org/10.1016/j.anbehav.2007.10.038>.
- Langer, Peter. "The Phases of Maternal Investment in Eutherian Mammals." *Zoology* 111, no. 2 (March 15, 2008): 148–62. <https://doi.org/10.1016/j.zool.2007.06.007>.
- Larivière, Serge. "Vulpes Zerda." *Mammalian Species* 714 (December 2002): 1–5. [https://doi.org/10.1644/1545-1410\(2002\)714<0001:VZ>2.0.CO;2](https://doi.org/10.1644/1545-1410(2002)714<0001:VZ>2.0.CO;2).
- Le Boeuf, B. J., and Briggs, K. T. "The Cost of Living in a Seal Harem." *Mammalia* 41 (1977): 167–95. <https://doi.org/10.1163/156853973X00508>
- Le Boeuf, B.J., Campagna, C. "Protection and Abuse of Young in Pinnipeds." In *Infanticide and Parental Care*, edited by Parmigiani, S., vom Saal, F.S., 257–76. Chur: Harwood Academic Press Publishers, 1994.
- Le Boeuf, Burney J., Ronald J. Whiting, and Richard F. Gantt. "Perinatal behavior of northern elephant seal females and their young." *Behaviour* 43.3 (1973): 121-156.
- Lloyd, P. H., and O. A. E. Rasa. "Status, Reproductive Success and Fitness in Cape Mountain Zebra (*Equus Zebra Zebra*)." *Behavioral Ecology and Sociobiology* 25, no. 6 (December 1989): 411–20. <https://doi.org/10.1007/BF00300187>.
- Lonstein, Joseph S., and Geert J. De Vries. "Comparison of the parental behavior of pair-bonded female and male prairie voles (*Microtus ochrogaster*)." *Physiology & Behavior* 66.1 (1999): 33-40. [https://doi.org/10.1016/S0031-9384\(98\)00270-4](https://doi.org/10.1016/S0031-9384(98)00270-4)
- López, Guillermo, Marcos López-Parra, Leonardo Fernández, Gema Ruiz, José M. Gil-Sánchez, and Miguel A. Simón. "First Evidence of Non-Parental Male Infanticide in the Endangered Iberian Lynx (*Lynx Pardinus*)." *Wildlife Biology in Practice* 6, no. 3 (December 28, 2010). <https://doi.org/10.2461/wbp.lynx.5>.
- Lott, Dale F. "American Bison Socioecology." *Applied Animal Behaviour Science* 29, no. 1–4 (February 1991): 135–45. [https://doi.org/10.1016/0168-1591\(91\)90242-P](https://doi.org/10.1016/0168-1591(91)90242-P).
- Łupicki, Dariusz, Jan Cichocki, Rafał Szkudlarek, and Agnieszka Ważna. "Cannibalism in Maternity Colonies of the Greater Mouse-Eared Bat *Myotis Myotis*." *Mammalia* 74, no. 3 (January 1, 2010). <https://doi.org/10.1515/mamm.2010.031>.
- Lydersen, C., K. M. Kovacs, and M. O. Hammill. "Energetics during Nursing and Early Postweaning Fasting in Hooded Seal (*Cystophora Cristata*) Pups from the Gulf of St Lawrence, Canada." *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology* 167, no. 2 (February 18, 1997): 81–88. <https://doi.org/10.1007/s003600050050>.
- Macdonald, D. W. "Social Behaviour of Captive Bush Dogs (*Speothos Venaticus*)." *Journal of Zoology* 239, no. 3 (July 1996): 525–43. <https://doi.org/10.1111/j.1469-7998.1996.tb05941.x>.
- Maestriperi, Dario. "Mother-infant relationships in three species of macaques (*Macaca mulatta*, *M. nemestrina*, *M. arctoides*). I. Development of the mother-infant

- relationship in the first three months." *Behaviour* 131.1 (1994): 75-96. DOI: [10.1163/156853994X00226](https://doi.org/10.1163/156853994X00226)
- Maestriperi, Dario, and Kelly A. Carroll. "Risk Factors for Infant Abuse and Neglect in Group-Living Rhesus Monkeys." *Psychological Science* 9, no. 2 (March 1998): 143–45. <https://doi.org/10.1111/1467-9280.00027>.
- Maher, Christine R., and Melissa Duron. "Mating System and Paternity in Woodchucks (*Marmota Monax*)." *Journal of Mammalogy* 91, no. 3 (June 16, 2010): 628–35. <https://doi.org/10.1644/09-MAMM-A-324.1>.
- Mallinson, P. J., Cresswell, W. J., Harris, S., & Cheeseman, C. L. (1992). To breed or not to breed: an analysis of the social and density-dependent constraints on the fecundity of female badgers (*Meles meles*). *Phil. Trans. R. Soc. Lond. B*, 338(1286), 393-407. <https://doi.org/10.1098/rstb.1992.0157>
- Mallory, Frank F., and Ronald J. Brooks. "Infanticide and pregnancy failure: reproductive strategies in the female collared lemming (*Dicrostonyx groenlandicus*)." *Biology of Reproduction* 22.2 (1980): 192-196. <https://doi.org/10.1095/biolreprod22.2.192>
- Manning, C. Jo, et al. "Communal nesting and communal nursing in house mice, *Mus musculus domesticus*." *Animal Behaviour* 50.3 (1995): 741-751. [https://doi.org/10.1016/0003-3472\(95\)80134-0](https://doi.org/10.1016/0003-3472(95)80134-0)
- Manson, Joseph H., Julie Gros-Louis, and Susan Perry. "Three Apparent Cases of Infanticide by Males in Wild White-Faced Capuchins (*Cebus Capucinus*)." *Folia Primatologica* 75, no. 2 (2004): 104–6. <https://doi.org/10.1159/000076270>.
- Margulis, Susan W., Mark Nabong, Glen Alaks, Allison Walsh, and Robert C. Lacy. "Effects of Early Experience on Subsequent Parental Behaviour and Reproductive Success in Oldfield Mice, *Peromyscus Polionotus*." *Animal Behaviour* 69, no. 3 (March 2005): 627–34. <https://doi.org/10.1016/j.anbehav.2004.04.021>.
- McCann, T.S. "Aggressive and Maternal Activities of Female Southern Elephant Seals (*Mirounga Leonina*)." *Animal Behaviour* 30, no. 1 (February 1982): 268–76. [https://doi.org/10.1016/S0003-3472\(82\)80263-7](https://doi.org/10.1016/S0003-3472(82)80263-7).
- McLeod, Peter J. "Infanticide by Female Wolves." *Canadian Journal of Zoology* 68, no. 2 (February 1990): 402–4. <https://doi.org/10.1139/z90-058>.
- Melo, Leonardo, AR Mendes Pontes, and MAO Monteiro da Cruz. "Infanticide and cannibalism in wild common marmosets." *Folia Primatologica* 74.1 (2003): 48-50. <https://doi.org/10.1159/000068389>
- Missakian, Elizabeth A. "Genealogical and Cross-Genealogical Dominance Relations in a Group of Free-Ranging Rhesus Monkeys (*Macaca Mulatta*) on Cayo Santiago." *Primates* 13, no. 2 (June 1, 1972): 169–80. <https://doi.org/10.1007/BF01840878>.
- Mohnot, S. M. "Intergroup Infant Kidnapping in Hanuman Langur." *Folia Primatologica* 34, no. 3–4 (1980): 259–77. <https://doi.org/10.1159/000155958>.
- Morelli, Toni Lyn, Patricia Wright, Stephen King, and Sharon Pochron. "The Rules of Disengagement: Takeovers, Infanticide, and Dispersal in a Rainforest Lemur, *Propithecus Edwardsi*." *Behaviour* 146, no. 4 (April 1, 2009): 499–523. <https://doi.org/10.1163/15683908X399554>.

- Morino, L. "Behavioral Endocrinology of Wild Male Siamangs (*Symphalangus Syndactylus*)." Rutgers University, 2012.
- Moss, Cynthia J. "The Demography of an African Elephant (*Loxodonta Africana*) Population in Amboseli, Kenya." *Journal of Zoology* 255, no. 2 (October 2001): 145–56. <https://doi.org/10.1017/S0952836901001212>.
- Mourao, G., and Carvalho, L. "Cannibalism among Giant Otters (*Pteronura Brasiliensis*)." *Mammalia* 65 (2001): 225–27.
- Muehlenbein, Michael P., David P. Watts, and Patricia L. Whitten. "Dominance Rank and Fecal Testosterone Levels in Adult Male Chimpanzees (*Pan Troglodytes Schweinfurthii*) at Ngogo, Kibale National Park, Uganda." *American Journal of Primatology* 64, no. 1 (September 1, 2004): 71–82. <https://doi.org/10.1002/ajp.20062>.
- Murai, Tadahiro, Maryati Mohamed, Henry Bernard, Patrick Andau Mahedi, Rashid Saburi, and Seigo Higashi. "Female Transfer between One-Male Groups of Proboscis Monkey (*Nasalis Larvatus*)." *Primates* 48, no. 2 (April 2007): 117–21. <https://doi.org/10.1007/s10329-006-0005-2>.
- Muroyama, Yasuyuki, and Bernard Thierry. "Fatal Attack on an Infant by an Adult Female Tonkean Macaque." *International Journal of Primatology* 17, no. 2 (April 1996): 219–27. <https://doi.org/10.1007/BF02735449>.
- Mwamende, Kuruthumu Ally. "Social Organisation, Ecology and Reproduction in the Sanje Mangabey (*Cercocebus Sanjei*) in the Udzungwa Mountains National Park, Tanzania," 2009. <http://researcharchive.vuw.ac.nz/handle/10063/1114>.
- Nave, C.D. "Fertility Control in the Eastern Grey Kangaroo, *Macropus Giganteus*." The University of Melbourne, 2002.
- Nekaris, K.A.I. "Observations of Mating, Birthing and Parental Behaviour in Three Subspecies of Slender Loris (*Loris Tardigradus* and *Loris Lydekkerianus*) in India and Sri Lanka." *Folia Primatologica* 74, no. 5–6 (2003): 312–36. <https://doi.org/10.1159/000073317>.
- Nekaris, K.A.I. "Social Lives of Adult Mysore Slender Lorises (*Loris Lydekkerianus Lydekkerianus*)." *American Journal of Primatology* 68, no. 12 (December 2006): 1171–82. <https://doi.org/10.1002/ajp.20316>.
- Nievergelt, Caroline M., Thomas Mutschler, Anna T.C. Feistner, and David S. Woodruff. "Social System of the Alaotran Gentle Lemur (*Hapalemur Griseus Alaotrensis*): Genetic Characterization of Group Composition and Mating System." *American Journal of Primatology* 57, no. 4 (August 2002): 157–76. <https://doi.org/10.1002/ajp.10046>.
- Norconk, Marilyn A. "Long-Term Study of Group Dynamics and Female Reproduction in Venezuelan *Pithecia Pithecia*." *International Journal of Primatology* 27, no. 3 (June 2006): 653–74. <https://doi.org/10.1007/s10764-006-9030-7>.
- Nunn, CL, and CP van Schaik. "Social Evolution in Primates: The Relative Roles of Ecology and Intersexual Conflict," Cambridge University Press., 388–420. Cambridge: van Schaik CP and Janson CH, 2000.
- Opie, Christopher, Quentin D. Atkinson, Robin I. M. Dunbar, and Susanne Shultz. "Male Infanticide Leads to Social Monogamy in Primates." *Proceedings of the*

- National Academy of Sciences* 110, no. 33 (August 13, 2013): 13328–32. <https://doi.org/10.1073/pnas.1307903110>.
- O’Shea, T. J., and T. A. Vaughan. “Nocturnal and Seasonal Activities of the Pallid Bat, *Antrozous Pallidus*.” *Journal of Mammalogy* 58, no. 3 (August 20, 1977): 269–84. <https://doi.org/10.2307/1379326>.
- Owens, Delia D., and Mark J. Owens. “Helping Behaviour in Brown Hyenas.” *Nature* 308, no. 5962 (April 1984): 843–45. <https://doi.org/10.1038/308843a0>.
- Packer, C., and Pusey, A.E. “Infanticide in Carnivores.” In *Infanticide: Comparative and Evolutionary Perspectives*, edited by Hrdy Hausfater, G. S. New York: Aldine, 1984.
- Packer, Craig, Anne E. Pusey, and Lynn E. Eberly. “Egalitarianism in Female African Lions.” *Science* 293, no. 5530 (July 27, 2001): 690–93. <https://doi.org/10.1126/science.1062320>.
- Palombit, RA. “Infanticide: Male Strategies and Female Counter-Strategies.” In *The Evolution of Primate Societies*, University of Chicago Press., 432–68. Chicago: Mitani JC, Call J, Kappeler PM, Palombit RA, Silk JB, 2012.
- Palombit, R.A. “Male Infanticide in Wild Savanna Baboons: Adaptive Significance and Intraspecific Variation.” In *Sexual Selection and Reproductive Competition in Primates: New Perspectives and Directions*, edited by Jones, C.B. Norman: American Society of Primatologists, 2003.
- Palombit, Ryne A. “Infanticide as Sexual Conflict: Coevolution of Male Strategies and Female Counterstrategies.” *Cold Spring Harbor Perspectives in Biology* 7, no. 6 (June 2015). <https://doi.org/10.1101/cshperspect.a017640>.
- Paoli, T., E. Palagi, and S.M. Borgognini Tarli. “Reevaluation of Dominance Hierarchy in Bonobos (*Pan Paniscus*).” *American Journal of Physical Anthropology* 130, no. 1 (May 1, 2006): 116–22. <https://doi.org/10.1002/ajpa.20345>.
- Patil, Vijay P., Timothy J. Karels, and David S. Hik. “Ecological, evolutionary and social constraints on reproductive effort: are hoary marmots really biennial breeders?.” *PloS one* 10.3 (2015): e0119081. <https://doi.org/10.1371/journal.pone.0119081>
- Patterson, I. A., R. J. Reid, B. Wilson, K. Grellier, H. M. Ross, and P. M. Thompson. “Evidence for Infanticide in Bottlenose Dolphins: An Explanation for Violent Interactions with Harbour Porpoises?” *Proceedings. Biological Sciences* 265, no. 1402 (July 7, 1998): 1167–70. <https://doi.org/10.1098/rspb.1998.0414>.
- Paul, Andreas, and Jutta Kuester. “Dominance, Kinship and Reproductive Value in Female Barbary Macaques (<Emphasis Type="Italic">Macaca Sylvanus</Emphasis>) at Affenberg Salem.” *Behavioral Ecology and Sociobiology* 21, no. 5 (November 1, 1987): 323–31. <https://doi.org/10.1007/BF00299970>.
- Paul, Andreas, Jutta Kuester, and Joachim Arnemann. “The Sociobiology of Male–Infant Interactions in Barbary Macaques, *Macaca Sylvanus*.” *Animal Behaviour* 51, no. 1 (January 1996): 155–70. <https://doi.org/10.1006/anbe.1996.0013>.
- Pedroni, F. Galetti, M. Paschoal, M. “Infanticide in the Brown Howler Monkey, *Alouatta Fusca*.” *Neotropical Primates* 2, no. 4 (1994): 6–7.

- Pereira, Michael E., and Peter M. Kappeler. "Divergent Systems of Agonistic Behaviour in Lemurid Primates." *Behaviour* 134, no. 3/4 (1997): 225–74.
- Pereira, Michael E., and Mark L. Weiss. "Female Mate Choice, Male Migration, and the Threat of Infanticide in Ringtailed Lemurs." *Behavioral Ecology and Sociobiology* 28, no. 2 (February 1991). <https://doi.org/10.1007/BF00180991>.
- Perry, Elizabeth A., and Garry B. Stenson. "Observations On Nursing Behaviour of Hooded Seals, *Cystophora Cristata*." *Behaviour* 122, no. 1 (January 1, 1992): 1–10. <https://doi.org/10.1163/156853992X00264>.
- Perry, Susan. "Female-Female Social Relationships in Wild White-Faced Capuchin Monkeys, *Cebus Capucinus*." *American Journal of Primatology* 40, no. 2 (1996): 167–82. [https://doi.org/10.1002/\(SICI\)1098-2345\(1996\)40:2<167::AID-AJP4>3.0.CO;2-W](https://doi.org/10.1002/(SICI)1098-2345(1996)40:2<167::AID-AJP4>3.0.CO;2-W).
- Pluháček, Jan, Luděk Bartoš, and Jitka Víchová. "Variation in incidence of male infanticide within subspecies of plains zebra (*Equus burchelli*)." *Journal of Mammalogy* 87, no. 1 (February 2006): 35–40. <https://doi.org/10.1644/05-MAMM-A-126R2.1>.
- Podgórski, Tomasz, David Lusseau, Massimo Scandura, Leif Sönrichsen, and Bogumiła Jędrzejewska. "Long-Lasting, Kin-Directed Female Interactions in a Spatially Structured Wild Boar Social Network." *PLoS ONE* 9, no. 6 (June 11, 2014). <https://doi.org/10.1371/journal.pone.0099875>.
- Pontier, Dominique, and Eugenia Natoli. "Infanticide in Rural Male Cats (*Felis Catus* L.) as a Reproductive Mating Tactic." *Aggressive Behavior* 25, no. 6 (1999): 445–49. [https://doi.org/10.1002/\(SICI\)1098-2337\(1999\)25:6<445::AID-AB5>3.0.CO;2-K](https://doi.org/10.1002/(SICI)1098-2337(1999)25:6<445::AID-AB5>3.0.CO;2-K).
- Porter, Leila M. "Social Organization, Reproduction and Rearing Strategies of *Callimico Goeldii*: New Clues from the Wild." *Folia Primatologica* 72, no. 2 (2001): 69–79. <https://doi.org/10.1159/000049925>.
- Porter, Richard H., and Helen M. Doane. "Studies of maternal behavior in spiny mice (*Acomys cahirinus*)." *Zeitschrift für Tierpsychologie* 47.3 (1978): 225–235. <https://doi.org/10.1111/j.1439-0310.1978.tb01833.x>
- Pradhan, Gauri R., and Carel van Schaik. "Infanticide-Driven Intersexual Conflict over Matings in Primates and Its Effects on Social Organization." *Behaviour* 145, no. 2 (2008): 251–75.
- Proffitt, Kelly M., Jay J. Rotella, and Robert A. Garrott. "Effects of Pup Age, Maternal Age, and Birth Date on Pre-Weaning Survival Rates of Weddell Seals in Erebus Bay, Antarctica." *Oikos* 119, no. 8 (February 16, 2010): 1255–64. <https://doi.org/10.1111/j.1600-0706.2009.18098.x>.
- Pruetz, J. D., and L. A. Isbell. "Correlations of Food Distribution and Patch Size with Agonistic Interactions in Female Vervets (*Chlorocebus Aethiops*) and Patas Monkeys (*Erythrocebus Patas*) Living in Simple Habitats." *Behavioral Ecology and Sociobiology* 49, no. 1 (December 1, 2000): 38–47. <https://doi.org/10.1007/s002650000272>.

- Pruetz, Jill. *The Socioecology of Adult Female Patas Monkeys and Vervets in Kenya*. Routledge, 2015.
- Pusey, Anne, et al. "Severe aggression among female Pan troglodytes schweinfurthii at Gombe National Park, Tanzania." *International Journal of Primatology* 29.4 (2008): 949. <https://doi.org/10.1007/s10764-008-9281-6>
- Qi, Xiao-Guang, Bao-Guo Li, Paul A. Garber, Weihong Ji, and Kunio Watanabe. "Social Dynamics of the Golden Snub-Nosed Monkey (*Rhinopithecus Roxellana*): Female Transfer and One-Male Unit Succession." *American Journal of Primatology* 71, no. 8 (August 2009): 670–79. <https://doi.org/10.1002/ajp.20702>.
- Radhakrishna, S., and Sing, M. "Infant Development in the Slender Loris (*Loris Lydekkerianus Lydekkerianus*)." *Current Science* 86 (2004): 1121–27.
- Ramírez-Llorens, P., M.S. Di Bitetti, M.C. Baldovino, and C.H. Janson. "Infanticide in Black Capuchin Monkeys (*Cebus Apella Nigritus*) in Iguazú National Park, Argentina." *American Journal of Primatology* 70, no. 5 (May 2008): 473–84. <https://doi.org/10.1002/ajp.20522>.
- Ramos-Lara, Nicolás, John L. Koprowski, Boris Kryštufek, and Ilse E. Hoffmann. "*Spermophilus Citellus* (Rodentia: Sciuridae)." *Mammalian Species* 913 (December 12, 2014): 71–87. <https://doi.org/10.1644/913.1>.
- Range, Friederike. "Social Behavior of Free-Ranging Juvenile Sooty Mangabeys (*Cercocebus Torquatus Atys*)." *Behavioral Ecology and Sociobiology* 59, no. 4 (February 2006): 511–20. <https://doi.org/10.1007/s00265-005-0076-x>.
- Range, Friederike, and Ronald Noë. "Familiarity and Dominance Relations among Female Sooty Mangabeys in the Taï National Park." *American Journal of Primatology* 56, no. 3 (March 1, 2002): 137–53. <https://doi.org/10.1002/ajp.1070>.
- Rasa, O.A.E. "Altruistic Infant Care or Infanticide: The Dwarf Mongooses' Dilemma." In *Infanticide and Parental Care*, edited by Parmigiani, S., vom Saal, F.S., 301–20. Chur: Harwood Academic Press Publishers, 1994.
- Rathbun, Galen B. "*Rhynchocyon Chrysopygus*." *Mammalian Species*, no. 117 (June 8, 1979): 1. <https://doi.org/10.2307/3503789>.
- Rhind, S. G. "Reproductive Demographics among Brush-Tailed Phascogales (*Phascogale Tapoatafa*) in South-Western Australia." *Wildlife Research* 29, no. 3 (2002): 247. <https://doi.org/10.1071/WR01013>.
- Rissman, Emilie F. "The Musk Shrew, *Suncus Murinus*, a Unique Animal Model for the Study of Female Behavioral Endocrinology." *Journal of Experimental Zoology* 256, no. S4 (1990): 207–9. <https://doi.org/10.1002/jez.1402560445>.
- Roberts, Miles. "Growth, Development, and Parental Care in the Western Tarsier (*Tarsius Bancanus*) in Captivity: Evidence for a 'Slow' Life-History and Nonmonogamous Mating System." *International Journal of Primatology* 15, no. 1 (February 1994): 1–28. <https://doi.org/10.1007/BF02735232>.
- Rood, John P. "Male Associations in a Solitary Mongoose." *Animal Behaviour* 38, no. 4 (October 1989): 725–28. [https://doi.org/10.1016/S0003-3472\(89\)80024-7](https://doi.org/10.1016/S0003-3472(89)80024-7).
- Roosmalen, Van, M. G. M, Van Roosmalen, and M. G. M. "Habitat Preferences, Diet, Feeding Strategy and Social Organization of the Black Spider Monkey [*Ateles*

- Paniscus Paniscus Linnaeus 1758] in Surinam.” *Acta Amazonica* 15 (1985): 7–238. <https://doi.org/10.1590/1809-43921985155238>.
- Rutberg, Allen T. “Factors Influencing Dominance Status in American Bison Cows (Bison Bison).” *Zeitschrift Für Tierpsychologie* 63, no. 2–3 (January 12, 1983): 206–12. <https://doi.org/10.1111/j.1439-0310.1983.tb00087.x>.
- S. Rasoloharijaona, B. Rakotosamimanana, E. Zimmermann. “Infanticide by a Male Milne-Edward’s Sportive Lemur, *Lepilemur Edwardsi*, in Ampijoroa, NW-Madagascar.” *International Journal of Primatology* 21 (2000): 41–45. <https://doi.org/10.1023/A:1005419528718>.
- Sachser, Norbert. “Of Domestic and Wild Guinea Pigs: Studies in Sociophysiology, Domestication, and Social Evolution.” *Naturwissenschaften* 85, no. 7 (July 27, 1998): 307–17. <https://doi.org/10.1007/s001140050507>.
- Sæther, Bernt-Erik, Erling J. Solberg, Morten Heim, John E. Stacy, Kjetill S. Jakobsen, and Randi Olstad. “Offspring Sex Ratio in Moose *Alces Alces* in Relation to Paternal Age: An Experiment.” *Wildlife Biology* 10, no. 1 (January 2004): 51–57. <https://doi.org/10.2981/wlb.2004.009>.
- Samson, Claude, and Jean Huot. “Spatial and Temporal Interactions between Female American Black Bears in Mixed Forests of Eastern Canada.” *Canadian Journal of Zoology* 79, no. 4 (April 2001): 633–41. <https://doi.org/10.1139/z01-021>.
- Santos, F.C., Rodrigues, J., Correa, A.A., Groch, K.R. “Comportamento de pares de fêmea – filhote *Eubalaena australis* (Desmoulins, 1822) na temporada reprodutiva de 2008, enseada de rianceira e ibiraquera, Santa Catarina,.” *Ensaio e Ciência Ciências Biológicas, Agrárias e Da Saúde* 14, no. 1 (2010): 83–101.
- Sargeant, A.B., Greenwood, R.J., Piehl, J.L., and Bicknell, W.B. “Recurrence, Mortality, and Dispersal of Prairie Striped Skunks.” *Canadian Field Naturalist* 96 (1982): 312–16.
- Sauther, Michelle L., Robert W. Sussman, and Lisa Gould. “The Socioecology of the Ringtailed Lemur: Thirty-Five Years of Research.” *Evolutionary Anthropology: Issues, News, and Reviews* 8, no. 4 (1999): 120–32. [https://doi.org/10.1002/\(SICI\)1520-6505\(1999\)8:4<120::AID-EVAN3>3.0.CO;2-Q](https://doi.org/10.1002/(SICI)1520-6505(1999)8:4<120::AID-EVAN3>3.0.CO;2-Q).
- Savage, A., L. H. Giraldo, L. H. Soto, and C. T. Snowdon. “Demography, Group Composition, and Dispersal in Wild Cotton-Top Tamarin (*Saguinus Oedipus*) Groups.” *American Journal of Primatology* 38, no. 1 (1996): 85–100. [https://doi.org/10.1002/\(SICI\)1098-2345\(1996\)38:1<85::AID-AJP7>3.0.CO;2-P](https://doi.org/10.1002/(SICI)1098-2345(1996)38:1<85::AID-AJP7>3.0.CO;2-P).
- Schradin, Carsten, and Neville Pillay. “Paternal Care in the Social and Diurnal Striped Mouse (*Rhabdomys Pumilio*): Laboratory and Field Evidence.” *Journal of Comparative Psychology* 117, no. 3 (2003): 317–24. <https://doi.org/10.1037/0735-7036.117.3.317>.
- Schultz, Lori A., and Richard K. Lore. “Communal reproductive success in rats (*Rattus norvegicus*): effects of group composition and prior social experience.” *Journal of Comparative Psychology* 107.2 (1993): 216–22. <https://doi.org/10.1037/0735-7036.107.2.216>

- Semb-Johansson, Arne, Richard Wiger, and Carl Erik Engh. "Dynamics of freely growing, confined populations of the Norwegian lemming *Lemmus lemmus*." *Oikos* (1979): 246-260.
- Setchell, Joanna M., Phyllis C. Lee, E. Jean Wickings, and Alan F. Dixson. "Reproductive Parameters and Maternal Investment in Mandrills (*Mandrillus Sphinx*)." *International Journal of Primatology* 23, no. 1 (2002): 51–68. <https://doi.org/10.1023/A:1013245707228>.
- Setchell, Joanna M., E. Jean Wickings, and Leslie A. Knapp. "Life History in Male Mandrills (*Mandrillus Sphinx*): Physical Development, Dominance Rank, and Group Association." *American Journal of Physical Anthropology* 131, no. 4 (December 2006): 498–510. <https://doi.org/10.1002/ajpa.20478>.
- Sherman, PW. "Reproductive Competition and Infanticide in Belding's Ground Squirrels and Other Animals." In *Natural and Social Behavior: Recent Research and New Theory*, Chiron Press New York. Alexander RD, Tinkle DW, 1981.
- Sicotte, Pascale, Julie Teichroeb, Iulia Bădescu, and Eva Wikberg. "Individualistic Female Dominance Hierarchies with Varying Strength in a Highly Folivorous Population of Black-and-White Colobus." *Behaviour* 150 (January 1, 2013): 1–26. <https://doi.org/10.1163/1568539X-00003050>.
- Silk, Joan B. "Social Components of Fitness in Primate Groups." *Science* 317, no. 5843 (2007): 1347–51. <https://doi.org/10.1126/science.1140734>.
- Silk, Joan B., Amy Samuels, and Peter S. Rodman. "Hierarchical Organization of Female *Macaca Radiata* in Captivity." *Primates* 22, no. 1 (January 1, 1981): 84–95. <https://doi.org/10.1007/BF02382559>.
- Silk, Joan B., et al. "Differential reproductive success and facultative adjustment of sex ratios among captive female bonnet macaques (*Macaca radiata*)." *Animal Behaviour* 29.4 (1981): 1106-1120. [https://doi.org/10.1016/S0003-3472\(81\)80063-2](https://doi.org/10.1016/S0003-3472(81)80063-2)
- Sillero-Zubiri, Claudio, Dada Gottelli, and D. W. Macdonald. "Male Philopatry, Extra-Pack Copulations and Inbreeding Avoidance in Ethiopian Wolves (*Canis Simensis*)." *Behavioral Ecology and Sociobiology* 38, no. 5 (May 20, 1996): 331–40. <https://doi.org/10.1007/s002650050249>.
- Slater, Kathy Y., Colleen M. Schaffner, and Filippo Aureli. "Sex Differences in the Social Behavior of Wild Spider Monkeys (*Ateles Geoffroyi Yucatanensis*)." *American Journal of Primatology* 71, no. 1 (January 2009): 21–29. <https://doi.org/10.1002/ajp.20618>.
- Smith, Bradley. *The Dingo Debate: Origins, Behaviour and Conservation*. Csiro Publishing, 2015.
- Smith, Rebecca K., Andrae Marais, Peter Chadwick, Peter H. Lloyd, and Russell A. Hill. "Monitoring and Management of the Endangered Cape Mountain Zebra *Equus Zebra* in the Western Cape, South Africa." *African Journal of Ecology* 46, no. 2 (June 2008): 207–13. <https://doi.org/10.1111/j.1365-2028.2007.00893.x>.
- Smuts, Barbara B. *Sex and Friendship in Baboons*. Routledge, 1985.

- Soares, Thannya Nascimento, Mariana P.C. Telles, Lucileide V. Resende, Leandro Silveira, Anah Tereza A. Jácomo, Ronaldo G. Morato, José Alexandre F. Diniz-Filho, Eduardo Eizirik, Rosana P.V. Brondani, and Claudio Brondani. "Paternal Testing and Behavioral Ecology: A Case Study of Jaguars (*Panthera Onca*) in Emas National Park, Central Brazil." *Genetics and Molecular Biology* 29, no. 4 (2006): 735–40. <https://doi.org/10.1590/S1415-47572006000400025>.
- Solanski, G., and Zothansiana, S. "Infanticide in Captive Stump-Tailed Macaques (*Macaca Arctoides*) Is in Accordance with the Sexual Selection Hypothesis." *Current Science*, no. 104 (2013): 1081–83.
- Somers, Michael J., O. Anne E. Rasa, and Barend L. Penzhorn. "Group Structure and Social Behaviour of Warthogs *Phacochoerus Aethiopicus*." *Acta Theriologica* 40 (June 9, 1995): 257–81. <https://doi.org/10.4098/AT.arch.95-25>.
- Stanger, Kathrin F., Barbara S. Coffman, and M. Kay Izard. "Reproduction in Coquerel's Dwarf Lemur (*Mirza Coquereli*)." *American Journal of Primatology* 36, no. 3 (1995): 223–37. <https://doi.org/10.1002/ajp.1350360306>.
- Steenbeek, R. "Infanticide by Males and Female Choice in Wild Thomas's Langurs." In *Infanticide by Males and Its Implications*, edited by Janson van Schaik, C.P. C.H., 153–77. Cambridge: Cambridge University Press, 2000.
- Stevens, Scott D. "High incidence of infanticide by lactating females in a population of Columbian ground squirrels (*Spermophilus columbianus*)." *Canadian Journal of Zoology* 76.6 (1998): 1183-1187. <https://doi.org/10.1139/z98-045>
- Stevenson, Pablo R. "Activity and Ranging Patterns of Colombian Woolly Monkeys in North-Western Amazonia." *Primates* 47, no. 3 (July 2006): 239–47. <https://doi.org/10.1007/s10329-005-0172-6>.
- Stockley, Paula, and Jakob Bro-Jørgensen. "Female Competition and Its Evolutionary Consequences in Mammals." *Biological Reviews of the Cambridge Philosophical Society* 86, no. 2 (May 2011): 341–66. <https://doi.org/10.1111/j.1469-185X.2010.00149.x>.
- Stokes, Emma J, Richard J Parnell, and Claudia Olejniczak. "Female Dispersal and Reproductive Success in Wild Western Lowland Gorillas (*Gorilla Gorilla Gorilla*)." *Behavioral Ecology and Sociobiology* 54, no. 4 (September 1, 2003): 329–39. <https://doi.org/10.1007/s00265-003-0630-3>.
- Strier, Karen B. "Brotherhoods Among Atelins: Kinship, Affiliation, and Competition." *Behaviour* 130, no. 3 (January 1, 1994): 151–67. <https://doi.org/10.1163/156853994X00505>.
- Strier, Karen B. "New World Primates, New Frontiers: Insights from the Woolly Spider Monkey, or Muriqui (*Brachyteles Arachnoides*)." *International Journal of Primatology* 11, no. 1 (February 1990): 7–19. <https://doi.org/10.1007/BF02193693>.
- Strier, K.B., Mendes, S.L. "The Northern Muriqui (*Brachyteles Hypoxanthus*): Lessons on Behavioral Plasticity and Population Dynamics from a Critically Endangered Species." In *Long-Term Field Studies of Primates*, edited by Kappeler, P. M., Watts, D. Berlin: Springer, 2012.

- Struhsaker, Thomas T., and Lysa Leland. "Infanticide in a Patrilineal Society of Red Colobus Monkeys." *Zeitschrift Für Tierpsychologie* 69, no. 2 (April 26, 2010): 89–132. <https://doi.org/10.1111/j.1439-0310.1985.tb00139.x>.
- Sugiyama, Y. "Social Organization of Hanuman Langurs." In *Social Communication among Primates*, edited by Altmann, S.A., 221–36. Chicago: University of Chicago Press, 1967.
- Symington, M. McFarland. "Sex Ratio and Maternal Rank in Wild Spider Monkeys: When Daughters Disperse." *Behavioral Ecology and Sociobiology* 20, no. 6 (June 1987): 421–25. <https://doi.org/10.1007/BF00302985>.
- Taber, A. B., and D. W. Macdonald. "Communal Breeding in the Mara, *Dolichotis Patagonum*." *Journal of Zoology* 227, no. 3 (July 1992): 439–52. <https://doi.org/10.1111/j.1469-7998.1992.tb04405.x>.
- Taylor, Mitchell, Thor Larsen, and R.E. Schweinsburg. "Observations of Intraspecific Aggression and Cannibalism in Polar Bears (*Ursus Maritimus*)." *ARCTIC* 38, no. 4 (January 1, 1985). <https://doi.org/10.14430/arctic2149>.
- Teichroeb, Julie A., Eva C. Wikberg, Iulia Bădescu, Lisa J. Macdonald, and Pascale Sicotte. "Infanticide Risk and Male Quality Influence Optimal Group Composition for Colobus Vellerosus." *Behavioral Ecology* 23, no. 6 (2012): 1348–59. <https://doi.org/10.1093/beheco/ars128>.
- Thierry, Bernard. "Feedback Loop between Kinship and Dominance: The Macaque Model." *Journal of Theoretical Biology* 145, no. 4 (August 23, 1990): 511–22. [https://doi.org/10.1016/S0022-5193\(05\)80485-0](https://doi.org/10.1016/S0022-5193(05)80485-0).
- Thierry, Bernard.. "Unity in Diversity: Lessons from Macaque Societies." *Evolutionary Anthropology: Issues, News, and Reviews* 16, no. 6 (November 1, 2007): 224–38. <https://doi.org/10.1002/evan.20147>.
- Thomas, Jeanette, Vladamir Pastukhov, Robert Elsner, and Eugene Petrov. "Phoca Sibirica." *Mammalian Species*, no. 188 (November 23, 1982): 1. <https://doi.org/10.2307/3503825>.
- Tiddi, Barbara, Filippo Aureli, and Gabriele Schino. "Grooming Up the Hierarchy: The Exchange of Grooming and Rank-Related Benefits in a New World Primate." *PLOS ONE* 7, no. 5 (mai 2012): e36641. <https://doi.org/10.1371/journal.pone.0036641>.
- Topping, Michael G., and John S. Millar. "Mating Patterns and Reproductive Success in the Bushy-Tailed Woodrat (*Neotoma Cinerea*), as Revealed by DNA Fingerprinting." *Behavioral Ecology and Sociobiology* 43, no. 2 (July 24, 1998): 115–24. <https://doi.org/10.1007/s002650050473>.
- Townsend, Simon W., Katie E. Slocombe, Melissa Emery Thompson, and Klaus Zuberbühler. "Female-Led Infanticide in Wild Chimpanzees." *Current Biology* 17, no. 10 (May 2007): R355–56. <https://doi.org/10.1016/j.cub.2007.03.020>.
- Treves, Adian. "Primate Social Systems: Conspecific Threat and Coercion-Defense Hypotheses." *Folia Primatologica* 69, no. 2 (1998): 81–88. <https://doi.org/10.1159/000021567>.

- Treves, Adrian, Ann Drescher, and Charles T. Snowdon. "Maternal Watchfulness in Black Howler Monkeys (*Alouatta Pigra*)." *Ethology* 109, no. 2 (February 2003): 135–46. <https://doi.org/10.1046/j.1439-0310.2003.00853.x>.
- Trillmich, F. "Maternal Investment and Sex-Allocation in the Galapagos Fur Seal, *Arctocephalus Galapagoensis*." *Behavioral Ecology and Sociobiology* 3 (1986): 157–64. <https://doi.org/10.1007/BF00300855>.
- Trulio, Lynne A. "The functional significance of infanticide in a population of California ground squirrels (*Spermophilus beecheyi*)." *Behavioral Ecology and Sociobiology* 38.2 (1996): 97-103. <https://doi.org/10.1007/s002650050222>
- Schaik, C. P. van, and R. I. M. Dunbar. "The Evolution of Monogamy in Large Primates: A New Hypothesis and Some Crucial Tests." *Behaviour* 115, no. 1/2 (1990): 30–62.
- Schaik, C P van, and P M Kappeler. "Infanticide Risk and the Evolution of Male-Female Association in Primates." *Proceedings of the Royal Society B: Biological Sciences* 264, no. 1388 (November 22, 1997): 1687–94.
- Schaik, Carel P. van. "The Ecology of Social Relationships amongst Female Primates." In *Comparative Socio-Ecology: The Behavioural Ecology of Humans and Other Mammals.*, Blackwell., 195–218. Oxford: Standen V, Foley RA, 1989.
- Schaik, Carel P. van, and Charles H. Janson. *Infanticide by Males and Its Implications*. Cambridge University Press, 2000.
- Van Belle, Sarie, Aimee E. Kulp, Robyn Thiessen-Bock, Marisol Garcia, and Alejandro Estrada. "Observed Infanticides Following a Male Immigration Event in Black Howler Monkeys, *Alouatta Pigra*, at Palenque National Park, Mexico." *Primates* 51, no. 4 (October 2010): 279–84. <https://doi.org/10.1007/s10329-010-0207-5>.
- van Lawick, H. *Solo: The Story of an African Wild Dog*. Boston: Houghton Mifflin, 1974.
- van Noordwijk, M. A., van Schaik, C.P. "Reproductive Patterns in Eutherian Mammals: Adaptations against Infanticide?" In *Infanticide by Males and Its Implications*, edited by Janson van Schaik, C.P. C.H., 322–60. Cambridge: Cambridge University Press, 2000.
- Van Vuren, Dirk H., Martin P. Bray, and Jeannie M. Heltzel. "Differential Investment in Twin Offspring by Female Pronghorns (*Antilocapra Americana*)." *Journal of Mammalogy* 94, no. 1 (February 2013): 155–61. <https://doi.org/10.1644/12-MAMM-A-107.1>.
- Vella, Emily T., et al. "Ontogeny of the transition from killer to caregiver in dwarf hamsters (*Phodopus campbelli*) with biparental care." *Developmental psychobiology* 46.2 (2005): 75-85. <https://doi.org/10.1002/dev.20047>
- Verdolin, J. L., and C. N. Slobodchikoff. "Resources, Not Kinship, Determine Social Patterning in the Territorial Gunnison's Prairie Dog (*Cynomys Gunnisoni*)." *Ethology* 115, no. 1 (January 1, 2009): 59–69. <https://doi.org/10.1111/j.1439-0310.2008.01590.x>.
- Vergara, Valeria. "Two cases of infanticide in a red fox, *Vulpes vulpes*, family in southern Ontario." *Canadian Field-Naturalist* 115.1 (2001): 170-173.

- Vervaecke, Hilde, Catherine Roden, and Han de Vries. "Dominance, Fatness and Fitness in Female American Bison, Bison Bison." *Animal Behaviour* 70, no. 4 (October 2005): 763–70. <https://doi.org/10.1016/j.anbehav.2004.12.018>.
- Wagner, Aaron P., Scott Creel, Laurence G. Frank, and Steven T. Kalinowski. "Patterns of Relatedness and Parentage in an Asocial, Polyandrous Striped Hyena Population." *Molecular Ecology* 16, no. 20 (October 2007): 4356–69. <https://doi.org/10.1111/j.1365-294X.2007.03470.x>.
- Wagner, Aaron P., Laurence G. Frank, and Scott Creel. "Spatial Grouping in Behaviourally Solitary Striped Hyaenas, Hyaena Hyaena." *Animal Behaviour* 75, no. 3 (March 2008): 1131–42. <https://doi.org/10.1016/j.anbehav.2007.08.025>.
- Ward, S.J. "Life-History of the Feathertail Glider, *Acrobates-Pygmaeus* (Acrobatidae, Marsupialia) in South-Eastern Australia." *Australian Journal of Zoology* 38, no. 5 (1990): 503. <https://doi.org/10.1071/ZO9900503>.
- Waterman, Jane M. "The Social Organization of the Cape Ground Squirrel (*Xerus Inauris*; Rodentia: Sciuridae)." *Ethology* 101, no. 2 (April 26, 2010): 130–47. <https://doi.org/10.1111/j.1439-0310.1995.tb00352.x>.
- Weladji, Robert B., and Karine Laflamme-Mayer. "Influence of Environmental Conditions on Sex Allocation in the Black Rhinoceros Population of Mkhuze Game Reserve, South Africa: Sex Allocation in Black Rhinoceros." *African Journal of Ecology* 49, no. 4 (December 2011): 471–80. <https://doi.org/10.1111/j.1365-2028.2011.01280.x>.
- Wells, Randall S., Michael D. Scott, and A. Blair Irvine. "The Social Structure of Free-Ranging Bottlenose Dolphins." In *Current Mammalogy*, 247–305. Springer, Boston, MA, 1987. https://doi.org/10.1007/978-1-4757-9909-5_7.
- Welker, Christian, and Cornelia Schaäfer-Witt. "Preliminary observations on behavioral differences among thick-tailed bushbabies." *International journal of primatology* 9.6 (1988): 509-518.
- White, Paula A. "Maternal rank is not correlated with cub survival in the spotted hyena, *Crocuta crocuta*." *Behavioral Ecology* 16.3 (2005): 606-613. <https://doi.org/10.1093/beheco/ari033>
- Wielgus, Robert B, and Fred L Bunnell. "Possible Negative Effects of Adult Male Mortality on Female Grizzly Bear Reproduction." *Biological Conservation* 93, no. 2 (April 2000): 145–54. [https://doi.org/10.1016/S0006-3207\(99\)00152-4](https://doi.org/10.1016/S0006-3207(99)00152-4).
- Wikberg, Eva C., Pascale Sicotte, Fernando A. Campos, and Nelson Ting. "Between-Group Variation in Female Dispersal, Kin Composition of Groups, and Proximity Patterns in a Black-and-White Colobus Monkey (*Colobus Vellerosus*)." *PLOS ONE* 7, no. 11 (November 7, 2012): e48740. <https://doi.org/10.1371/journal.pone.0048740>.
- Wittemyer, G., and W.M. Getz. "Hierarchical Dominance Structure and Social Organization in African Elephants, *Loxodonta Africana*." *Animal Behaviour* 73, no. 4 (April 2007): 671–81. <https://doi.org/10.1016/j.anbehav.2006.10.008>.
- Wolff, Jerry O., and Donna M. Cicirello. "Comparative paternal and infanticidal behavior of sympatric white-footed mice (*Peromyscus leucopus noveboracensis*)

- and deermice (*P. maniculatus nubiterrae*)." *Behavioral Ecology* 2.1 (1991): 38-45. <https://doi.org/10.1093/beheco/2.1.38>
- Wolff, Jerry O., and David W. Macdonald. "Promiscuous Females Protect Their Offspring." *Trends in Ecology & Evolution* 19, no. 3 (March 2004): 127–34. <https://doi.org/10.1016/j.tree.2003.12.009>.
- Wolff, Jerry O., W. Daniel Edge, and Guiming Wang. "Effects of adult sex ratios on recruitment of juvenile gray-tailed voles, *Microtus canicaudus*." *Journal of Mammalogy* 83.4 (2002): 947-956. [https://doi.org/10.1644/1545-1542\(2002\)083<0947:EOASRO>2.0.CO;2](https://doi.org/10.1644/1545-1542(2002)083<0947:EOASRO>2.0.CO;2)
- Wrangham, Richard W. "An Ecological Model of Female-Bonded Primate Groups." *Behaviour* 75 (1980): 262–300.
- Wright, Patricia C. "Demography and Life History of Free-Ranging *Propithecus Diadema Edwardsi* in Ranomafana National Park, Madagascar." *International Journal of Primatology* 16, no. 5 (October 1995): 835–54. <https://doi.org/10.1007/BF02735722>.
- Wroblewski, Emily E., Carson M. Murray, Brandon F. Keele, Joann C. Schumacher-Stankey, Beatrice H. Hahn, and Anne E. Pusey. "Male Dominance Rank and Reproductive Success in Chimpanzees, *Pan Troglodytes Schweinfurthii*." *Animal Behaviour* 77, no. 4 (2009): 873–85. <https://doi.org/10.1016/j.anbehav.2008.12.014>.
- Xiang, Zuo-fu, and Cyril C. Grueter. "First Direct Evidence of Infanticide and Cannibalism in Wild Snub-Nosed Monkeys (*Rhinopithecus Bieti*)." *American Journal of Primatology* 69, no. 3 (March 2007): 249–54. <https://doi.org/10.1002/ajp.20333>.
- Yu, Xiaodong, and Jiming Fang. "A preliminary study on effects of kinship on parental care and infanticide of brandt's voles (*Microtus brandti*)." *Acta theriologica sinica* 23.4 (2003): 326-331. <https://europepmc.org/abstract/cba/528685>
- Ylönen, Hannu, Esa Koskela, and Tapio Mappes. "Infanticide in the bank vole (*Clethrionomys glareolus*): occurrence and the effect of familiarity on female infanticide." *Annales Zoologici Fennici*. Finnish Zoological and Botanical Publishing Board, 1997.
- Young, Andrew J., and Tim Clutton-Brock. "Infanticide by Subordinates Influences Reproductive Sharing in Cooperatively Breeding Meerkats." *Biology Letters* 2, no. 3 (September 22, 2006): 385–87. <https://doi.org/10.1098/rsbl.2006.0463>.
- Zhang, Shuyi, Bing Liang, and Lixin Wang. "Infanticide within Captive Groups of Sichuan Golden Snub-Nosed Monkeys (*Rhinopithecus Roxellana*)." *Folia Primatologica* 70, no. 5 (1999): 274–76. <https://doi.org/10.1159/000021707>.
- Zhao, Qing, Carola Borries, and Wenshi Pan. "Male Takeover, Infanticide, and Female Countertactics in White-Headed Leaf Monkeys (*Trachypithecus Leucocephalus*)." *Behavioral Ecology and Sociobiology* 65, no. 8 (August 2011): 1535–47. <https://doi.org/10.1007/s00265-011-1163-9>.
- Zimble-Delorenzo, Heather S., and Anita I. Stone. "Integration of Field and Captive Studies for Understanding the Behavioral Ecology of the Squirrel Monkey (*Saimiri*

Sp.)” *American Journal of Primatology* 73, no. 7 (July 2011): 607–22. <https://doi.org/10.1002/ajp.20946>.

Ziporyn, Terra, and Martha K. McClintock. “Passing as an Indicator of Social Dominance Among Female Wild and Domestic Norway Rats.” *Behaviour* 118, no. 1 (January 1, 1991): 26–41. <https://doi.org/10.1163/156853991X00184>.

Zucker, Evan L., and Margaret R. Clarke. “Agonistic and Affiliative Relationships of Adult Female Howlers (<Emphasis Type="Italic">Alouatta Palliata</Emphasis>) in Costa Rica Over a 4-Year Period.” *International Journal of Primatology* 19, no. 3 (June 1, 1998): 433–49. <https://doi.org/10.1023/A:1020356321396>.

Supplementary File 2 for Lukas & Huchard: The evolution of infanticide by females in mammals

Credit for animal drawings used in Figure 1

All drawings were downloaded from PhyloPic: <http://phylopic.org>

Picture information is listed as:

Common name listed in figure (taxon identifier for picture on PhyloPic): Author

Starting from top, clockwise:

Old World primate (*Papio*): Uncredited

Hare (*Leporidae*): Sarah Werning

Squirrel (*Sciuridae*): Catherine Yasuda

Marmot (*Marmota monax*): Michael Keeseey

Mice (*Muridae*): Madeleine Price Ball

Marsupial (*Marsupialia*): Sarah Werning

Bat (*Chiroptera*): Michael Keeseey

Mongoose (*Herpestoidae*): Michael Keeseey

Felids (*Panthera*): Sarah Werning

Canids (*Canidae*): Michael Keeseey

Bear (*Ursus*): Steven Traver

Seal & sealions (*Pinnipedia*): Steven Traver

Marten (*Meles*): Uncredited

Ungulate (*Cervus*): Steven Traver

Lemur (*Daubentonia*): Uncredited

Great ape (*Gorilla*): Michael Keeseey

New World primate (*Cebus*): Sarah Werning