

ABSTRACT

ROBERTSON, SCOTT, MARSHALL. Mammalian reproductive plasticity in response to resource availability. (Under the direction of Dr. Roger Powell).

Reproductive strategies have garnered much attention from biologist. Yet the ultimate cause, persistence, distribution, and definition of monogamy continues to incite disagreement. Within the literature, reproductive behavior is presented as rigid and reflective of a species' behavior via either genetics or hormonal organizational effects. In this dissertation, I provide evidence that reproductive strategy is highly plastic in individual mammals; thus, mammals may not have evolved specific reproductive strategies regulated by any genetic underpinning. I test two hypotheses, 1) Mammals in regions with high resource availability exhibit high rates of polygynous or promiscuous behavior and 2) Mammals modify their reproductive strategies to match the behavior optimal for a given resource regime. I used three lines of investigation: a meta-analysis of mammalian reproductive behavior in terrestrial mammal species, a survey of coyote (*Canis latrans*) reproduction in areas of differing primary productivity, and an analysis of prairie vole (*Microtus ochrogaster*) reproductive strategy on restrictive and nonrestrictive diets. In each analysis, I found monogamous behavior inversely correlated with resource availability. Moreover, I show that individuals change their reproductive strategy based on the resource landscape in which they exist. Female coyotes in populations with low resource availability were more likely to delay reproduction and to have high rates of nulliparity. Caloric availability influenced monogamy rates significantly in prairie voles. Further, the change in reproductive strategy occurred within a single generation. This ecologically driven behavioral change may explain the conflicting behavior reported within the literature for prairie voles. Taken together, my data provides empirical evidence that resources drive monogamous behavior in mammals.

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Mammalian Reproductive Plasticity in Response to Resource Availability.

by
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DEDICATION

To Sarah, from one monogamous mammal to another.

BIOGRAPHY

During my masters, I studied bats and was known as batman. I am now vole man. I feel I have lost some cool points.

ACKNOWLEDGMENTS

To all those who practiced a strategy that led to my existence, I thank you.

TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES.....	vii
CHAPTER 1: Introduction.....	1
CHAPTER 2: Methods and results	11
CHAPTER 3: Discussion	24
References	32
Appendices	56
Appendix A: Productivity index of mammal species.....	57
Appendix B: Paternal certainty and productivity of selected studies.....	140
Appendix C: Placental scarring rates among female coyotes by age class.....	143
Appendix D: Paternity of voles in differing resource environments	144

LIST OF TABLES

CHAPTER 1: Introduction and overview

Table 1. Definitions of reproductive strategies. 3

Table 2. Expected behavior for the possible reproductive strategies. 6

CHAPTER 2: Methods and results

Table 3. Feeding regimes 21

CHAPTER 3: Discussion

Table 4. Hypotheses for the correlation between monogamy and pair bonding .. 25

LIST OF FIGURES

CHAPTER 1: Introduction and overview

Figure 1. Modeled reproductive strategy in differing resource landscapes6

CHAPTER 2: Methods and results

Figure 2. Visualization of global evapotranspiration.....12

Figure 3. Mean productivity within species ranges of monogamous and non-monogamous mammals14

Figure 4. Comparison of the mean productivity of species ranges who are socially, genetically and non-monogamous15

Figure 5. Regression of the productivity of study site and the monogamy index.....16

Figure 6. Coyote study site locations.....18

CHAPTER 3: Reproductive plasticity in voles

Figure 7. Reproductive rates of female coyotes in habitats of varying resource productivity19

Figure 8. Electrophoresis gel of PCR product with microsatellite primers for the AV13 locus of a female and four offspring.....22

Figure 9. Mean minimum paternity of feeding regimes23

Figure 10. Mean minimum paternity per female over the generations.....23

Figure 11. Possible interactions between behavioral fields.....31

Chapter 1: Introduction

Reproductive strategies have garnered considerable attention and prompted extensive research. This interest is due in part to the presence of monogamy in roughly 17% of human cultures and its relative rarity in other non-avian chordates (Kleiman, 1977; Emlen and Oring, 1977; Marlowe, 2000; Brotherton and Komers, 2003; and Gavrilets 2012). Yet the ultimate cause, persistence, distribution and definition of monogamy continues to incite disagreement among modern biologists (Brotherton and Manser, 1997; Brown et al., 2010; and Lukas and Clutton-Brock, 2013) due to the complexity of the behavior and, occasionally, due to contradictory terminology. Most definitions of monogamy center on mating exclusivity and thereby define it as a mating strategy. Other definitions focus on the roles of females and males in social systems, and on the importance of long-term pair bonding behavior and on biparental care. Further, while recent ornithological papers commonly note that birds exhibit pair bonding but breed promiscuously, many mammalogists continue to use the terms synonymously (Birkhead and Moller, 1996; Brotherton and Komers, 2003; Clutton-Brock and Isvaran, 2006). A binary view of reproductive strategies (monogamous or not) may be, however, a false dichotomy. A growing body of evidence indicates pronounced variation of reproductive strategies within species (Fietz et al., 2000; Storz et al., 2001; Eberle and Kappeler, 2004; Adamczak and Dunbar 2008; Goossens et al 2008).

Within the literature, many behaviors have been used to indicate monogamy including: 1) home range overlap with nest cohabitation (Komers and Brotherton, 1997), 2) pair bonds throughout breeding and non-breeding seasons, 3) selective aggression directed toward unfamiliar conspecifics, 4) biparental care, 5) high levels of paternal care, 6) alloparenting, 7) socially regulated reproductive processes such as estrus induction and ovulation, and 8) reproductive suppression of adult individuals within a family group (Carter et al., 1995; Komers and Brotherton, 1997; Sommer and Reichard, 2000; Kappeler and van Schaik, 2002, Brown et al., 2010; and Lukas and Clutton-Brock , 2013). Though these behaviors are often associated, each is a separate component of a social structure, and not necessarily linked to others. For example, bonded pairs in some species often share a home range (e.g., prairie voles *Microtus ochrogaster*, Ophir et al. 2007), but a shared home range with nest cohabitation does not equate to pair bonding (e.g., red-tailed sportive lemurs,

Lepilemur ruficaudatus, Hilgartner et al., 2012). Similarly, pair bonded members of many species commonly mate monogamously (e.g., Azara's owl monkey, *Aotus azarae*; Huck et al., 2014), but monogamous mating is not required (e.g. hoary marmots *Marmota caligata*, Kyle et al, 2007).

For this dissertation, I define pair bonding as a long-term association between two individuals of the opposite sex that display affiliative interaction, and commonly exhibit reciprocal altruism and mutual care of offspring. I define monogamy as a reproductive strategy that employs exclusivity of mating behaviors, with caveats. Serial monogamy is a series of bonds that dissolve after one or more breeding seasons to be replaced by new, monogamous bonds. Additionally, when applying these descriptors to any individual or population, it is important to consider the level of extra-pair paternity, if any, allowed while still being able to call the individual or population monogamous. For my research, I chose to call a bonded pair of individuals monogamous if they exhibited <10% extra-pair matings. I know that this definition is arbitrary (See Table 1). Nonetheless, I believe using this terminology prevents confusion as it conveys the distinction between monogamous mating and living in a pair, differentiates between a mating system and a social organization, and avoids assumptions of offspring parentage.

Reproductive Strategies

The reproductive strategies used within a population are the consequence of intraspecific conflict between individual males and females, each having different conditions that lead to maximizing an individual's reproductive output (Hamilton 1964, Clutton-Brock and Parker 1992, Iwasa and Pomiankowski 1995). When males are able to reproduce with multiple females and offspring can survive without paternal care, males can increase their fitness by mating with more than one female (Trivers, 1972). As females can provide nourishment for offspring via nursing, males who devote their efforts to reproduction instead of parenting carry a lower cost and higher reward than monogamous males. Further, due to internal fertilization, gestation and lactation, females cannot abandon offspring for other mating opportunities as easily as can males (Orians, 1969; Trivers, 1972; Maynard

Table 1. Definitions of reproductive strategies.

Breeding strategy	Definition
Polygyny	A male breeding with multiple females over the course of a season, whereas females reproduce breed with a single male per season.
Selective Promiscuity	Males and females both have multiple chosen partners with resulting offspring from single litters exhibiting multiple paternity.
Polyandry	A female breeding with multiple males while the males share the one female partner.
Monogamy	A prolonged, multi-season, essentially exclusive mating relationship between one male and one female.
Serial Monogamy	Exclusively breeding pair bonds that dissolve and do not reform after each breeding season.
Pair-Bonding	Social behavior in which two individuals of opposite sex form exclusive bonds, exhibit strong affiliative behavior, and cooperatively rear offspring. i.e., social monogamy.
Delayed Dispersal	Young delay dispersal from the mother's home range for at least one breeding cycle and exhibit alloparenting of siblings/half-siblings.
Early Dispersal	Young disperse from the mother's home range before the next reproductive cycle and do not exhibit alloparenting.

Smith, 1977; Clutton-Brock 1991). Thus, mammalian females endure great costs in gestating, lactating and rearing their young while males may have an incentive to abandon their offspring to increase fitness. The differing incentives for females and males can create conflicting optimal reproductive scenarios between the sexes (Trivers 1972; Parker 1984 Gavrillets and Arnqvist 2001 and Hosken and Stockley 2009).

Polygyny and selective promiscuity are the dominant reproductive patterns in mammals (Clutton-Brock, 1989; Krebs and Davies, 1993; Moehlman and Hofer, 1997) and these strategies offer advantages to both sexes. Both systems both offer females increased access to fit males when compared to monogamy. Further, promiscuous behavior stimulates competition among males and sexual selection, including sperm competition, thereby

improving fitness (Keil and Sachser, 1998). Both strategies offer potential benefits to males by maximizing the potential numbers of mates, though the majority of males may not reproduce at all due to intraspecific competition (e.g. Kovach and Powell 2003). Conversely, monogamy and paternal care of offspring are rare amongst mammals (Kleiman, 1977; Kleiman and Malcolm 1981). In a monogamous system, males forfeit potential reproductive success by increasing parental care to one female's young (Kurland and Gaulin 1984). Nevertheless, monogamy and paternal care persists in some species.

Current literature commonly equates pair-bonding behavior and monogamy in mammals (Lonstein and De Vries, 2000; Gage et al., 2002; Fisher, 1998; Lardy et al., 2011; Lukas and Clutton-Brock 2012). This assumption, however, is likely an error. Pair bonding is a social construct and arguably caused by group selection (Lukas and Clutton-Brock 2012). In this system, males do not necessarily lose mating opportunities and females may maintain high genetic diversity in offspring via extra pair couplings. A cuckolded male does not necessarily have reduced fitness by raising another's young as he may, in turn, have another male raise offspring he has fathered outside of his union.

A number of recent papers have suggested that, regardless of social structure or evolutionary changes selecting for group behavior, the reproductive strategies employed by members of a species are plastic (Solomon et al, 2004; Kitchen et al, 2006; Munshi-South, 2007; Martin, 2007 and Crawford et al, 2008). Such plasticity supports the hypotheses that monogamy and pair bonding have differing selective pressures, and that members of some populations exhibit plasticity to take advantage of differing environments.

Mammals exhibit variation in the degree to which they follow a specific reproductive strategy. Prairie voles (*Microtus ochrogaster*) appear strictly monogamous in some wild populations yet are promiscuous in others (Ophir, 2008) and practice polyandry in laboratory settings (Wolffand and Dunlap, 2002). Multiple species differ in the observed mating strategy depending on location including bobucks (*Trichosurus cunninghami*) (Martin and Martin, 2007), hoary marmots (*Marmota caligata*) (Kyle et al, 2007), and oribi (*Ourebi aourebi*) (Adamczak and Dunbar 2008). While each author cited above provided multiple hypotheses on the ultimate cause of these variations in behavior, low resource availability in the monogamous population is the only consistent factor among these examples.

Many hypotheses relate to the underlying factors behind reproductive strategy in mammals, e.g. allometrics (Silby and Brown, 2009), genetics (Hammock and Young, 2004), juvenile survival, female home range characteristics (Komners and Brotherton, 1997), optimal group size, and resource availability (Crook, 1965; Macdonald, 1983; Powell, 1989). All of these hypotheses lack the support of strong empirical evidence. A well-documented relationship exists between a species distribution and reproduction strategy; individuals within a population tend to form aggregates as their available resources become spatially or temporally clumped (Crook, 1965; Mock and Fujioka, 1990; Lott, 1991; and Travis and Slobodchikoff, 1993). This correlation between individual proximity and resource patchiness is likely explained by the costs of competition among group members for resources and the benefit of exploiting a clumped resource (Waser, 1988; Janson, 1992; and Van Schaik and Janson 2000).

An expansion of this pattern, the resource dispersion hypothesis suggests that evolution of social groups derives from the abundance and distribution of resources (Macdonald, 1983, 1984; Slobodchikoff, 1984; Carr and Macdonald, 1986; Bacon et al., 1991a, b; Woodroffe and Macdonald, 2000). This hypothesis contrasts with others in the importance given to territoriality. Previous hypotheses suggested territoriality was an impediment to sociality whereas the resource dispersion hypothesis is limited to territorial animals (Crook, 1965). Further, the resource dispersion hypothesis assumes that territorial defense is the primary benefit of group living and that no other benefits are necessary to explain group formation and maintenance, though the hypothesis does not preclude other benefits from existing.

Powell (1989) modeled resource availability and its temporal and spatial variability as the sources of variation in reproduction strategies and delayed dispersal. Assuming that animals adopt a reproductive strategy that maximizes lifetime fitness, one can extrapolate lifetime reproductive output, deduce optimal mating strategies for a given amount of a limiting resource (Figure 1), and predict some reproductive behaviors (Table 2). Moreover, Powell's model is falsifiable and provides a robust approach to the understanding of mating strategies.

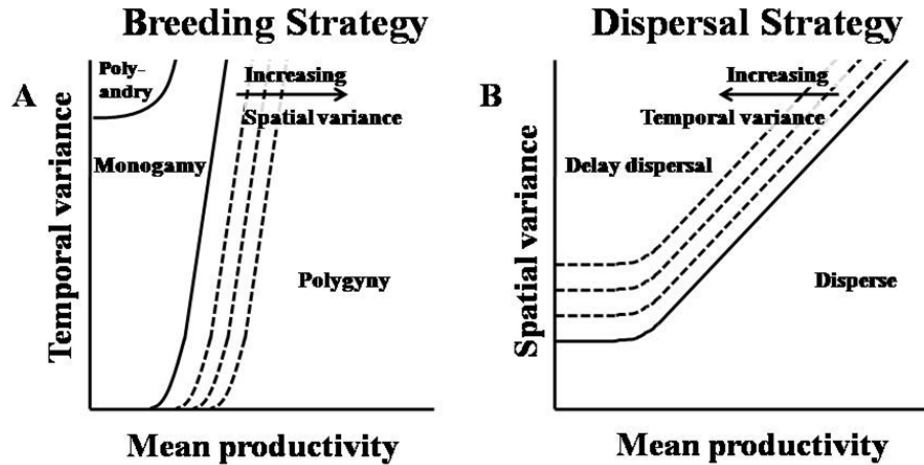


Figure 1. Modeled reproductive strategy in differing resource landscapes for A. breeding and B. timing of dispersal (Powell 1989).

Table 2. Modeled reproductive behavior per resource landscape, breeding strategy and offspring dispersal timing

	High productivity	Low productivity	
high predictability	polygyny (early dispersal)	monogamy (co-op breeding)	high patchiness
high predictability	selective promiscuity (early dispersal)	monogamy (early dispersal)	low patchiness
low predictability	polygyny (early dispersal)	monogamy/polyandry (co-op breeding)	high patchiness
low predictability	selective promiscuity (early dispersal)	monogamy/polyandry (early dispersal)	low patchiness

Within this dissertation, I aim to elucidate the role of resource availability in mammals' choices of reproductive strategy. The aims are twofold: to examine correlations between resource availability and reproductive strategy and to test if changes in resource availability promote predictable changes in reproductive behavior. I achieve these aims by testing two hypotheses:

1. Mammals in regions with high resource availability exhibit high rates of polygynous or promiscuous behavior.
2. Mammals modify their reproductive strategies to match the behavior optimal for a given resource regime.

I test these hypotheses via three lines of investigation: three meta-analyses of mammalian reproductive behavior reported in the literature, a survey of coyote (*Canis latrans*) reproduction in areas of differing primary productivity, and an analysis of prairie vole reproductive strategy on restrictive and nonrestrictive diets.

Coyote model

Coyotes are excellent model organisms for testing Powell's model. They are widely distributed mesopredators, historically confined to the Great Plains and arid western regions; they have expanded their range into eastern North America. This range expansion is largely attributed to the extirpation of gray wolves (*Canis lupus*), as well as to coyote's flexibility in habitat requirements and adaptability to ecological disruption (e.g. urbanization and increased edge; Hill et al. 1987; Grinder and Krausman, 2001; Gese, 2003; Baker and Funk, 2004; Gompper and Kays, 2006; Carlson, 2008).

The ecology of coyotes within their native range is well-documented (Andelt, 1985; Kitchen et al., 1999; Stoddart et al., 2001; Gese, 2004). Coyotes are generalist omnivores whose diets include fruit, vegetable crops, birds, small mammals (particularly murids and lagomorphs), fawns and, occasionally, livestock and small pets (Wenning and Delberto, 2000; Berger, 2006).

Coyotes defend territories delineated by physical boundaries such as roads, fences and rivers (Andelt, 1985; Gese et al., 1996). Home range size is predicted by the availability of prey (Patterson and Messier, 2000), suitable denning locations, and pack social structure (Bowen, 1981, 1982). Coyotes maintain territorial boundaries and general dietary preferences over time, given a stable environment. Dispersing coyotes show preference toward habitat bioregions that reflect their natal experiences, though they occasionally choose novel habitats of higher quality e.g. greater availability of water resources or prey (Sacks and Bannasch, 2008).

Coyotes have been reported using four social organizations: 1) Solitary individuals with undefended home ranges and dispersing coyotes that sometimes live as transient individuals with no defined home range (Bekoff and Wells, 1996). 2) Mated pairs that remain together multiple years and raise offspring, which often disperse. 3) Packs with one

breeding pair and other non-breeding individuals (typically siblings who are offspring of the breeding pair) who defend a common territory (Harrison, 1992). 4) An aggregation of 70 or more individuals (reported only once, by Camenzind, 1978). The underlying causation of the variation in social structure is unknown. Nonetheless, no apparent correlation exists between pack size and food availability (Patterson and Messier, 2001).

Within their original western range, coyotes appear to practice true monogamy and pair bonds can last more than four years. Mating is seasonal in early- to mid-winter, depending on location. Otherwise, the reproductive anatomy and physiology of coyotes are similar to that of domestic dogs (Bekoff and Gese, 2003). Males and females typically are capable of breeding at 10 months of age, though captive females will often not produce pups in their first year and placental scars have not been noted until the second year (Green and Knowlton, 2002). The mean number of pups per litter is six but food supply and population density both have a strong influence on litter size. High population density and prey scarcity both negatively influence litter size (Knowlton, 1972).

Dispersal typically occurs between nine months and two years of age and varies based on location, prey abundance and population density. Sex differences in dispersal are a prominent result for studies of western coyotes but not necessarily for eastern coyotes (Robinson and Grand, 1958; Nellis and Keith, 1976; Windberg et al. 1985; Harrison, 1992). The timing of dispersal influences pack structure and alters the size of defended territories (Kleiman and Brady, 1978).

While strong evidence exists for monogamous populations of coyotes (Andelt 1985; Asa 1997; Bekoff 1977; Sacks and Neale 2001; Bekoff and Gese 2003), other evidence documents extra-pair mating behavior. Gese et al. (1996) observed a female mating with multiple males within a single estrus cycle and they and Way et al. (2001) reported males provisioning females at separate dens. Hennessy et al., 2012 documented monogamous behavior by coyotes in areas with high resource availability but also particularly high population density. These reports bring into question the commonly cited strict monogamy of coyotes and support the hypothesis that individuals vary in reproductive strategies.

The plasticity in foraging behaviors and dispersal patterns exhibited by coyotes, combined with a wide geographic range, provides an opportunity to examine the effect of

ecological factors (e.g. resource variability) on reproductive strategy. Within coyotes' native range, the behavior predicted by Powell's model fits the observed breeding strategy of monogamous pairs with delayed dispersal of offspring. The model further predicts that in areas with high resource productivity, predictability, and uniform distribution, selective promiscuity and early dispersal of young is the optimal breeding strategy. Thus, as the coyote range has expanded eastward to include areas with greater resource availability, the selective pressures that maintain monogamy with cooperative breeding might relax and lead to promiscuity and early dispersal. This change should be observable in the onset of reproduction and percentage of females exhibiting placental scaring. Powell's model predicts delayed reproductive onset with only established adults reproductively active in areas of low resource availability. Conversely, in areas of high resource abundance, young coyotes should disperse early and begin reproducing immediately. Most females in these locations should exhibit placental scaring indicative of reproductive activity.

Prairie vole model

Prairie voles (*Microtus ochrogaster*) are ideal model organisms for examining the mechanisms of monogamous behavior, demonstrating a variety of reproductive strategies in nature and the lab (Carter et al., 1995, Aragona and Wang, 2004, and Young and Wang, 2004). Based on initial observations in both field and lab, prairie voles were initially classified as a monogamous, pair-bonding species (Carter et al., 1980; Getz and Carter, 1980; McGuire and Getz, 1981; Getz et al., 1981; and Carter and Getz, 1985). Additional laboratory studies of partner preferences, paternal behaviors and territoriality supported this hypothesis; bonded males spend more time in physical contact with their mates than with other females, provide care for their bonded female's offspring, and are aggressive to conspecifics regardless of sex (Getz et al., 1981; Gruder-Adams and Getz, 1985; Winslow et al., 1993; Cho et al., 1999; and Young and Wang, 2004). Recent experiments on prairie vole ethology have shifted our perception of their behavior from true monogamy to pair bonding. This change in perception, or categorization, was based on studies performed in semi-natural populations (Ophir et al. 2007; Solomon et al. 2009), field studies (Getz and Hofmann 1986; McGuire and Getz 1998) and on laboratory work (Williams et al. 1992; Carter et al. 1995; Cho et al. 1999; Ophir et al. 2007).

Despite classification as a monogamous species, prairie voles display variation within male reproductive strategies. Some males roam instead of bonding with a single female (Getz et al., 1993; Ophir et al., 2008; McGuire and Getz, 2010) and the proportion of males exhibiting roaming behavior varies inversely with population density (Getz et al. 1987; Cochran and Solomon 2000; Lucia et al. 2008). Further, populations differ spatially and temporally in observed mating strategy. Some investigators suggested that a smaller proportion of prairie voles in Kansas display monogamy than do voles in Illinois (Solomon and Getz 1997; Roberts et al. 1998; reviewed by Cushing and Kramer 2005) yet, others have found that the rate of monogamy in Kansas was relatively high (approx. 72%, Streatfeild et al., 2011).

Lack of sexual dimorphism in body size has commonly been used as a signifier for monogamy (Boonstra et al. 1983) and, while dimorphism is not reported for populations in Illinois (Ophir et al., 2007), voles in Kansas are sexually dimorphic (Fitch, 1957; Roberts et al., 1998). While researchers have made repeated attempts to examine the driving factors behind the variation in mating strategies among vole populations, differing methodologies and conflicting results have hampered our ability to isolate causation (Getz et al., 1992; Roberts et al. 1998; Ophir et al., 2007).

The well documented variation in mating and social behavior makes prairie voles excellent subjects for testing the hypothesis that resource availability is a driving factor behind reproductive strategy and associated behaviors.

Chapter 2: Methods and results

Meta-analysis:

I obtained distribution maps for 2,287 mammal species (Appendix A) from the IUCN Red List (www.iucnredlist.org, accessed in March 2013, Schipper et al., 2008). These maps were generated via minimum convex polygon estimation and represent extents of species occurrence. They have been widely used in ecological studies (e.g. Ceballos et al. 2005; Schipper et al. 2008; Fløjgaard et al. 2011) and provide a simple way to find mean resource productivity within a species range (Tian 2010). I excluded species that are marine, introduced or extinct, or that lack documented reproductive strategies. I dichotomized species by their currently reported reproductive strategy, “monogamous” or non-monogamous (Appendix A). Secondly, I split the monogamous group into pair bonded and monogamous by separating out 18 species documented to be monogamous via genetic analysis. While this monogamous group almost certainly does not contain all the species that practice true monogamy and may contain populations that practice alternative breeding strategies, the results, nonetheless, document interesting patterns.

I used mean evapotranspiration (Mu et al., 2007; Figure 2) as an index of overall resource productivity (UNEP, 1997, Tian 2010). The data used in this analysis is in grid format, at 30 arc seconds (~ 1km at equator). Using ArcGIS 10.1, I calculated the mean productivity index of each species range and compared behavior categories using crosstabs and discriminate function analysis (SPSS v22). I assigned each species’ range to an incremental ordinal scale of one through eight; with one set as the lowest productivity and eight the highest. This scale most closely matches the designations set by the modified Thornthwaite classification system (Feddema, 2005)

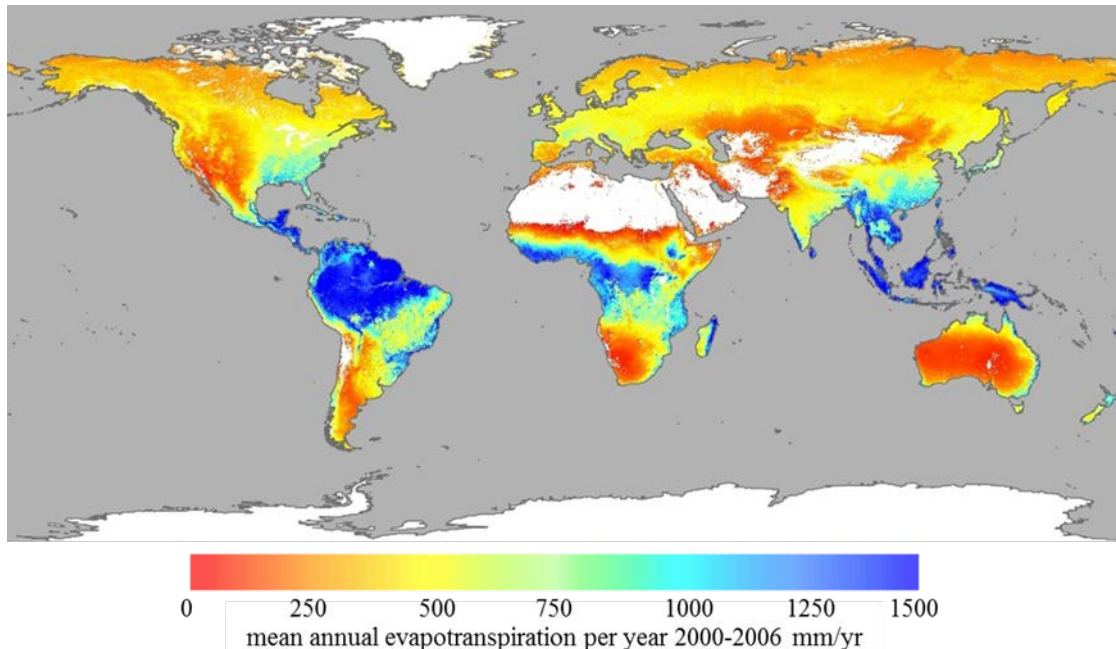


Figure 2. Visualization of global evapotranspiration. (Mu et al. 2007)

Population ranges and monogamy

I searched the literature (Appendix B) for research that used microsatellite analysis to determine paternity for litters of terrestrial, non-invasive mammals (N=58). From these results, I calculated an index of monogamy for each study. First, I calculated the maximum number of offspring sired by a single male for each female and divided by litter size. My index of monogamy then became

$$\text{Monogamy index} = (S/L) * MB$$

where S = maximum number sired by one male, L = litter size, and MB = reported male behavior (1 for monogamy, .5 for polygyny or selective promiscuity). Field studies of male reproductive patterns are rare; consequently, I used the currently reported reproductive strategy of a species to determine male behavior. My results represent a starting point for future research.

I used the methods section of each paper to plot the location of study sites and thereby assigned a productivity index value. For studies conducted in multiple locations, I calculated the mean for the study. I calculated the relationship between resource abundance and

reproductive strategy using a regression (SPSS v22) of resource productivity against paternal certainty.

Evapotranspiration is not a perfect index for resource productivity because it reflects food and water resources only. It ignores other potentially limiting factors, such as den sites or soil nutrients. It also ignores local dynamics such as population density and urbanization, which influence the resources available to an individual. Nonetheless, evapotranspiration serves as a broad global index that can help us elucidate general trends in reproductive behavior. Used as I have described, however, general trends in behavior related to resources should be apparent.

Results

Mean primary production within species ranges of pair-bonded and non-monogamous mammals did not differ ($F=0.433$, $p=0.506$; Figure 3). After differentiating the 18 monogamous species; however, a significant difference appears ($F=8.479$, $p < 0.001$; Figure 4). Interestingly pair-bonding behavior correlated with higher resource availability within species' ranges than either promiscuous or monogamous behavior.

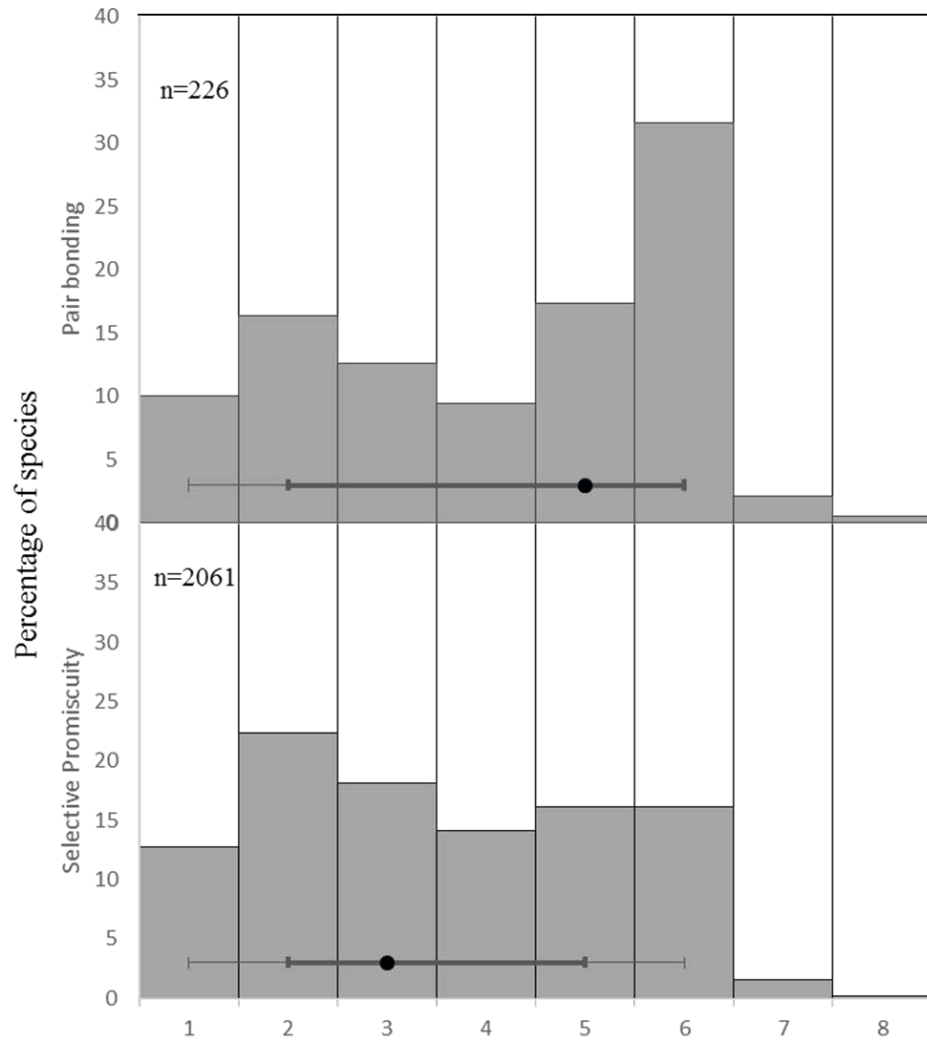


Figure 3. Mean productivity index within species ranges of monogamous and non-monogamous mammals. Median is indicated by the dot and error bars indicate quartiles (25th/75th in bold and 95th)

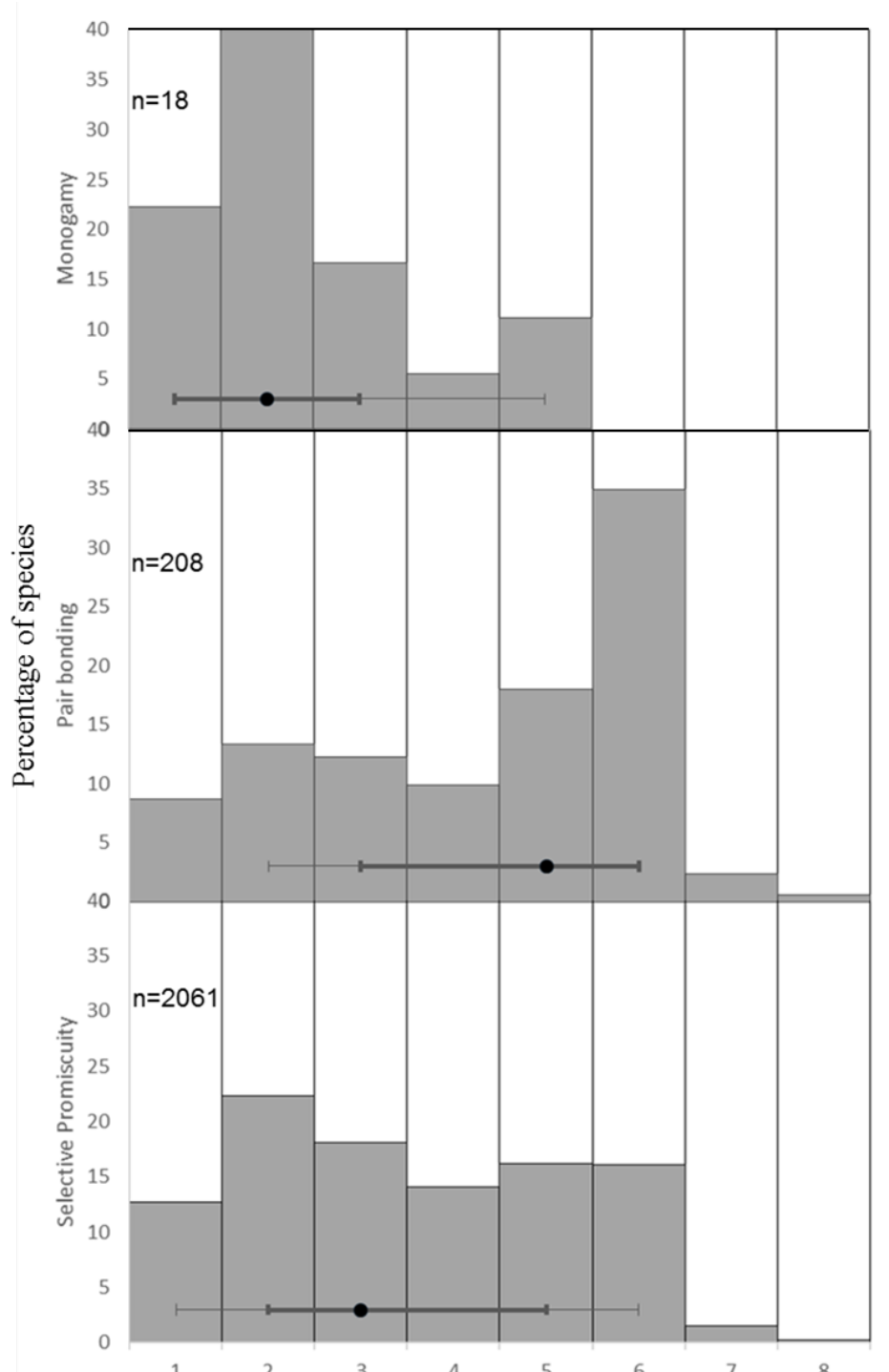


Figure 4. Comparison of the mean productivity index of the ranges of species that are genetically monogamous, socially monogamous and non-monogamous. Median is indicated by the dot and error bars indicate quartiles (25th/75th in bold and 95th).

I found a significant negative linear relationship between productivity and reproductive strategy ($r^2 = 0.245$, $F = 18.176$, $p < 0.001$; Figure 5). Nonetheless, many species fell outside the 95% confidence interval, indicating that resource abundance alone does not account for all reproductive strategies.

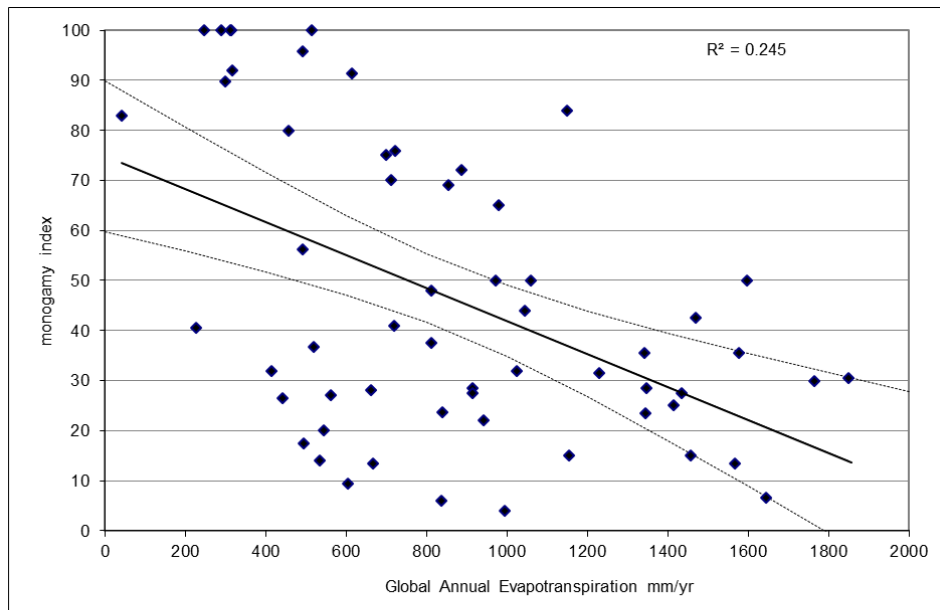


Figure 5. Regression of the monogamy index on the productivity index for each study site. The slope was significantly different from 0 ($F = 18.176$, $p < 0.001$). The two dotted lines delineate the 95% confidence interval of the monogamy index normally distributed around the regression.

Coyote Model

From the literature, I recorded reproductive strategies of coyotes (age of onset and percentage of procreant females) from seven locations: California, Illinois, Kansas, Texas, and Utah in the United States and Alberta and New Brunswick in Canada (Figure 6; Sacks, 2005; Mahan and Mahan, 2007; Gier, 1968; Knudsen, 1976; Windberg, 1995; Nellis, 1976; Dumond and Villard, 2000) (Appendix C). Using evapotranspiration rates, I designated each location as either high (> 600mm per year) or low (< 500mm per year) productivity (Trabucco, A., and Zomer, R.J. 2009; Figure 6). All studies included percentages of females reported to have exhibited placental scarring in their first, second, and additional breeding seasons. I used placental scarring as an indicator of overall reproductive contribution from each age class. The presence of scars is evidence of implantation and I used it as a marker for the onset of reproduction in the female population. These scars are formed by shedding of the placenta from the uterus and thus each scar represents a fetus. The placental scars from the most recent pregnancy are almost always distinctly distinguishable from old placental scars, which have healed longer and are often no longer visible. Presence of placental scarring at a young age and in most females is indicative of early dispersal and non-pack forming behavior.

To the data collected from the literature, I added field data for coyotes living in central North Carolina. I collected carcasses of female coyotes (N = 118) from the North Carolina Department of Transportation and from volunteers in Wake and Chatham counties from 2008 to 2013. I assigned each female to an age class at last breeding season: juvenile (10 months) yearling (22 months) and adult (34+ months) based on tooth wear (Gier, 1968) and performed necropsies to ascertain the presence or absence of placental scarring.

While the Wake and Chatham counties are adjacent and similar in climatic and ecological history, they differ greatly in human density and activity. They host resident human populations of 823,345 and 49,329 and, while both have ample human disturbances, Chatham is primarily rural while Wake County has a large urban component (McKerrow et al., 2006). Urbanization alters resource availability. Thus, to confirm it appropriate to combine these data as a single data point in the analysis below, I tested for differences in percentage of reproductive females and age of reproductive onset between coyotes collected

in the two counties using a nested ANCOVA, nesting age class within reproductive rate. I failed to reject the null hypothesis of no significant difference in reproductive rates between coyotes from Wake and Chatham counties ($(F(2, 112) = 1.031), p = 0.36$).

I performed a nested ANCOVA (age class within reproductive rate) to look at the effects of productivity (high vs low, using evapotranspiration as an index as discussed previously) on timing of the onset of reproduction in coyotes and percentage of reproductive females.

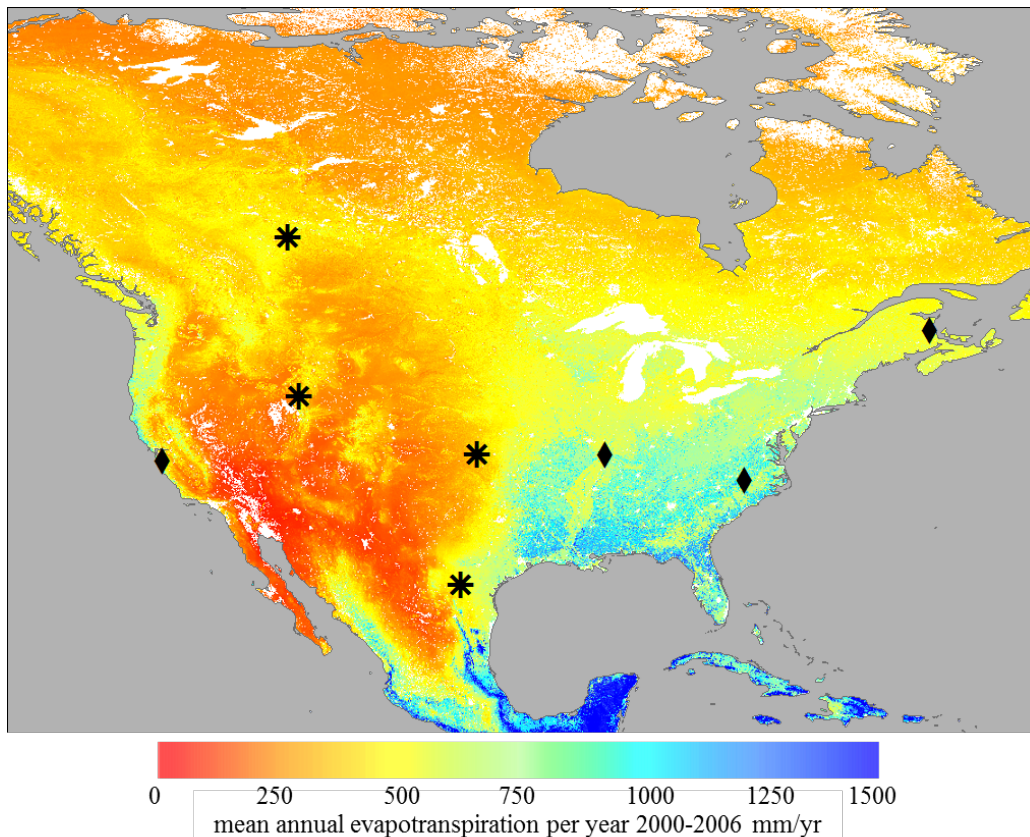


Figure 6. Coyote study site locations. ♦ Indicate sites with an EVT of > 600 mm/yr. * denote locations < 500 mm/yr

Results

The percentage of reproductive coyotes differed among locations with high and low productivity, controlled for age ($F(2, 14) = 6.730$, $P = 0.009$). Low resource regions had fewer than 50% of females reproductive by their third breeding season and only 12.3% reproductively active in their first. In areas with extremely high resource availability, as many as 100% of females had fetuses or placental scars after their first breeding season (Sacks, 2005); overall in highly productive areas 44.8% were reproductively active in their first season and 93.6% after their third breeding season (Figure 7).

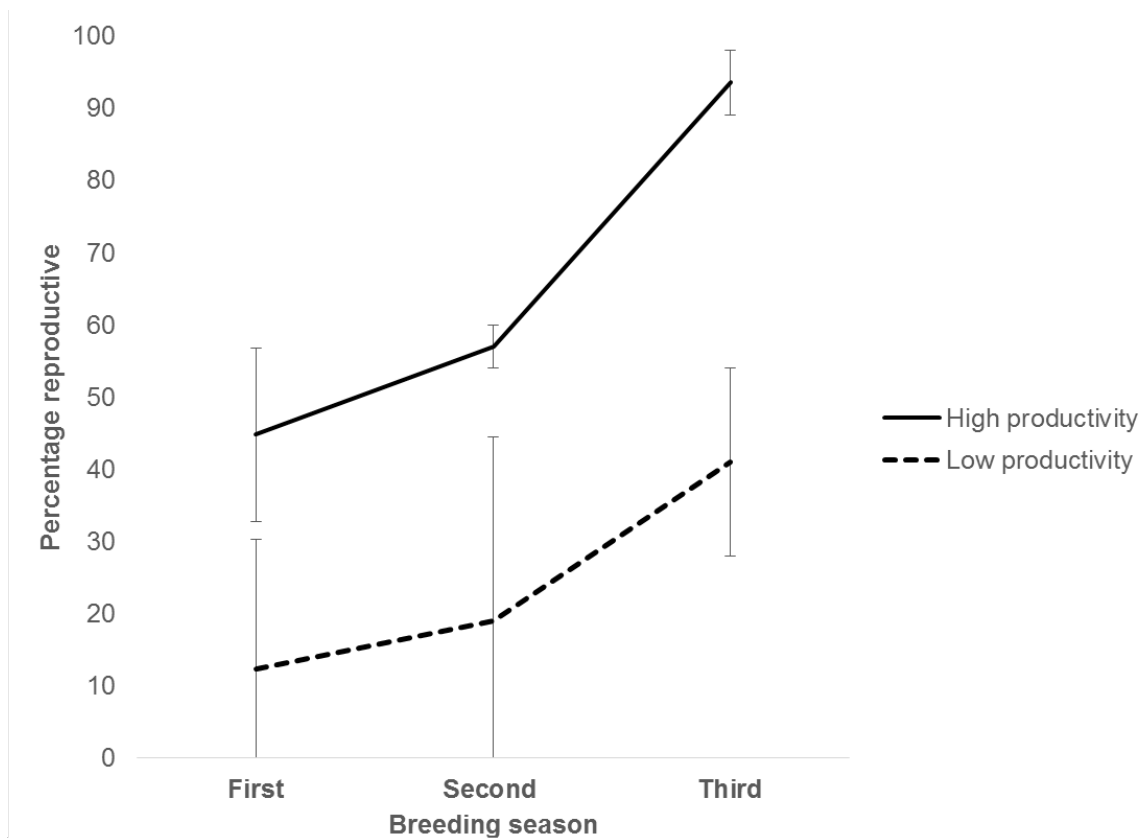


Figure 7. Reproductive rates of female coyotes in habitats of varying resource productivity. Error bars signify 95% confidence intervals.

Prairie vole model

I obtained 102 prairie voles from Lisa McGraw that had been maintained at the Biological Resource Facility at North Carolina State University. I separated each vole from its siblings and assigned it to one of six different diet regimes using a list randomizer (Haahr, 1998). I excluded the P₁ generation from analysis because all individuals had been on the same, nonrestrictive diet prior to the beginning of this study.

Colony maintenance

I filled 2m diameter livestock water tanks with approximately 20 cm of wood shavings, positioned four den boxes antipodally, added environmental enrichment such as small rocks and cardboard tubes and covered each tank with 6 mm hardware cloth mesh to prevent predation and escape. Each tank contained four male and four female voles of reproductive age. I removed offspring at 21 days of age. Each generation used 30 tanks (5 per treatment/diet).

I used two treatments, *ad libitum* feeding and diets restricted to 75% *ad libitum*. I maintained full food hoppers for *ad libitum* and calculated 75% *ad libitum* for each vole by weighing the amount of food eaten when offered food freely. Within these two treatments, I further segregated voles into three diets, timothy, fortified timothy and alfalfa (table 3). Timothy is a commonly used vole colony feed and comes in both vitamin A and C fortified and in unfortified forms (Casanova et al., 1999). Alfalfa was included as a diet because it contains a high level of phytoestrogens (Casanova et al., 1999; Eeva, 2006). Thus, I also tested the effects of caloric availability, nutrient availability and phytoestrogen content on vole reproductive behavior. While not pertinent to Powell's model, the test for a phytoestrogen effect is necessary. Alfalfa and other legumes are prevalent in some locations native to prairie voles and might have been a confounding variable, as high levels of phytoestrogens effect growth, development and sociosexual behavior (Patisaul, 2013).

To avoid hoarding, I isolated all voles during feedings three times daily. I fed each vole on the calorically restrictive diet *ad libitum* until 22 days old and then gave it 75% of its *ad libitum* food intake. To avoid infanticide under restricted feeding regimes after a mother whelped, I switched all voles in the enclosure to free feed until the litter was 12 days old. I

returned any pregnant and nursing females, or voles that lost 10% of initial body mass, to free feed.

Table 3. Feeding regimes of voles.

<i>Ad libitum</i> Timothy Vitamin A fortified	75% restrained Timothy Vitamin A fortified
<i>Ad libitum</i> Timothy	75% restrained Timothy
<i>Ad libitum</i> Alfalfa	75% restrained Alfalfa

I selected 20 females and males randomly from each generation (Haahr, 1998) for each feeding regime for a total of four generations. To avoid inbreeding and mate avoidance, I did not place siblings in the same enclosure.

Microsatellite and paternity analysis

Six microsatellite loci have been screened in voles and used to assess paternity (Soloman 2005, Ophir 2008). These include MSMM-2, MSMM-6, and MSCRB-6 (Ishibashi et al. 1999), and MOE-2 (Van de Zande et al. 2000), AV-3 and AV-13 (Stewart et al. 1998). While MSCRB-6 was initially amplified, as done by Ophir (2008), I found multiple homozygous mismatches between known maternal offspring pairs, indicating a high frequency of null alleles and, thus, excluded it from this study.

I amplified DNA samples from all individuals via polymerase chain reaction (PCR) at each microsatellite locus in 15- μ L reactions containing approximately 50 ng genomic DNA, 10 mol Tris-HCl/L, 0.2 mol dNTPs/L, 1.0–1.5 mol MgCl/L, 0.67 μ mol/L each of forward and reverse primers, and 0.5 U Taq DNA polymerase. After initial denaturation at 95 °C for 3 min, PCR reactions cycled 35 times, with denaturation at 90 °C for 30 seconds, annealing at 52–62 °C depending on the primer pair for 20 seconds and extension at 72 °C for 20 seconds with a final elongation step of 5 min. Following amplification, PCR products

were electrophoresed on 8% polyacrylamide gels in 1× TBE, and gels were stained with ethidium bromide.

I electrophoresed each litter on the same gel and scored them by comparison of the amplified PCR products. To confirm the reliability of the initial genotyping results, I electrophoresed DNA from individuals from multiple litters having the same allele at a particular locus. I repeated this process for each allele scored at each of the four microsatellite loci used in the analysis to verify the accuracy of the genotype data within and between families.

To assess the number of paternal sources within each litter, I compared the genotype of every offspring with that of its mother. Thereby I could identify alleles inherited maternally and paternally. I assumed multiple paternity for any litter having greater than two paternal alleles at a given locus (Figure 8, Appendix D). Thus, this analysis may be biased to underestimate multiple paternity.

Statistical analysis

I used an ANCOVA to examine effects of both feeding regime and generation on paternity per litter. Significance levels were set at 0.05%.

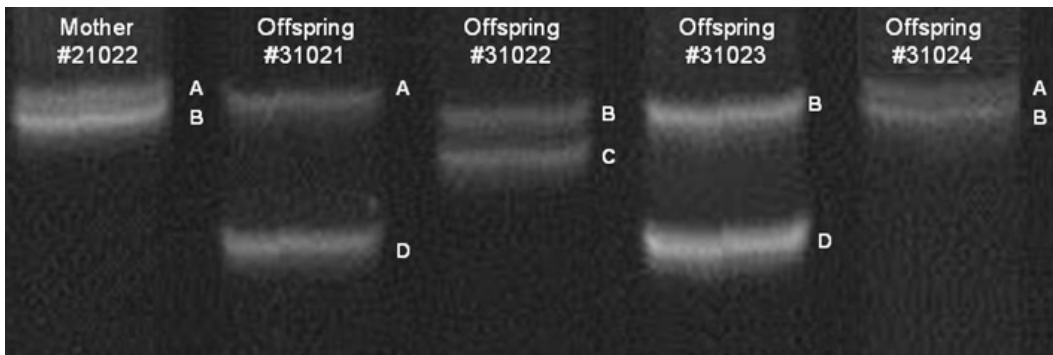


Figure 8. Electrophoresis gel of PCR product with microsatellite primers for the AV13 locus of a female and four offspring. The letters represent the alleles present for each individual. Non-maternal alleles for Offspring 31021, 31022, 31023, and 31024 are D, C, D and A or B. The three non-maternal alleles in this litter indicate multiple paternity.

Results

Mean \pm SE allelic richness across loci was 12.3 ± 2.17 alleles. Mean minimum paternity per litter differed significantly between feeding regimes ($F(5,473) = 123.081$, $p < 0.001$), Figure 9). Pairwise comparisons found significant differences between all free feed versus calorically restricted diets but not between food types. Generation did not have a significant effect (Figure 10).

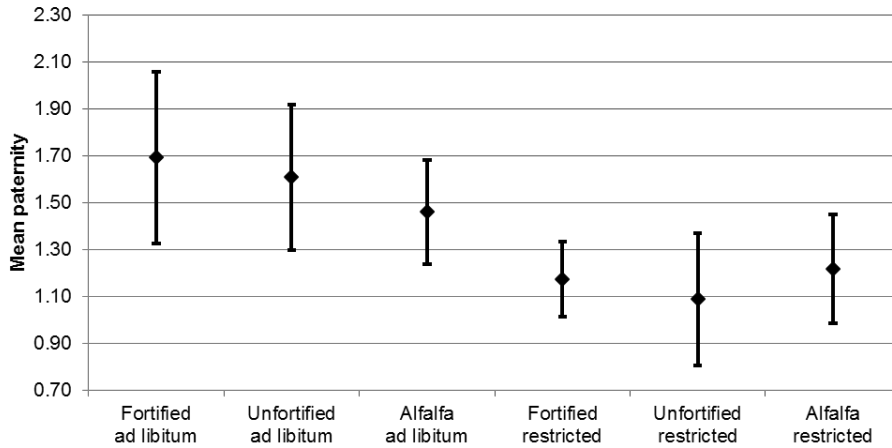


Figure 9. Mean minimum paternity of feeding regimes. (N=480 - n = 80) Error bars signify standard deviation.

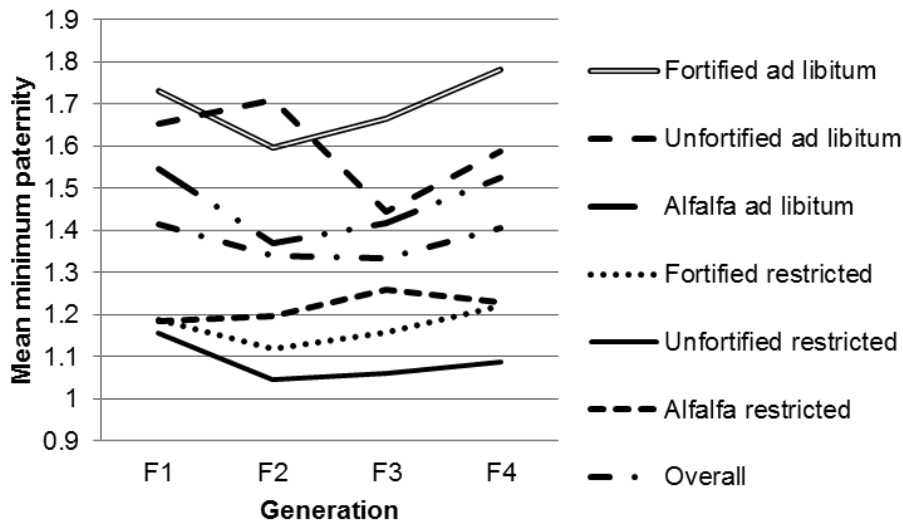


Figure 10. Mean minimum paternity per female over the generations (n=20, N=480, $p = 0.534$).

Chapter 3: Discussion

Meta-Analysis

Consistent with Powell's model, resource availability has a significant effect on reproductive strategy. Across all investigations, I found monogamous behavior inversely correlated with resource availability. Further, within prairie voles, I demonstrated that individuals change their reproductive strategy based on the resource landscape in which they exist.

Resource availability in species ranges of pair-bonded and non-monogamous mammals did not differ significantly. Nonetheless, the ranges of monogamous species had significantly lower evapotranspiration. A similar trend is seen in the population meta-analysis and, while the r^2 value is low (figure 5), it is worth noting that the evapotranspiration is only informative of food and water availability and not other potentially limiting resources. Powell's model focuses on any limiting resource and, while diet is a certainly important, many species exist across landscapes that have differing limiting resources. For example, bobcats are monogamous in locations where den trees are scarce yet polygynous where they are common (Martin and Martin, 2007) and tunnel systems appear to be the limiting resource for pine voles (*Microtus pinetorum*; Powell and Fried, 1992)

Interestingly, pair bonding in mammals correlates with a higher resource availability than non-monogamy or monogamy. This incongruity between monogamy and pair bonding is logical if monogamy has a separate suite of selective pressures from those that drive bonding behavior. Recent studies of pair bonding behavior in mammals differ in their findings. Opie et al. (2013) suggested that pair bonding decreases primarily the rate of infanticide, whereas Lukas and Clutton-Brock (2013) found that pair bonding evolved where males were unable to defend multiple females. Likely pair bonding behavior evolved for varying reasons and along different pathways in various species.

Intense paternal care, social structure and strength of pair bond have all been linked to monogamous and bonding behaviors (Cohas, 2009; Huck et al., 2014). Yet, not all species conform, some having low rates of extra pair paternity but little to no paternal care, e.g. Kirk's dik-diks (Brotherton et al., 1997) or polyandrous females in pair bonds that have

paternal care, e.g. fat-tailed dwarf lemurs (Huck et al., 2014). Thus, these behaviors have different driving factors that, while not mutually exclusive, reveal differences in promotion or decline that lead to testable predictions (Table 4).

Table 4. Hypotheses for the correlation between monogamy and pair bonding.

Hypothesis	Prediction
1. Ecologically driven covariance	Resource limitations drive monogamous behavior while various ecological factors influence pair bonding such as predator pressure, resource limitations, life history traits etc. Accounting for these traits will reduce the correlation between monogamy and pair bonding behavior.
2. Ecologically driven monogamy, phylogenetic pair bonding	Pair-bonding behavior is driven by phylogeny, tied to in part to social structures, independent of the reproductive strategies the individual employs which is driven by variance in resources.
3. Monogamy favors pair bonding	Changes to the environment that favor monogamy and cooperative breeding explain transitions to pair bonding.
4. Pair bonding due to phylogenetic facilitation	Pair bonding will be more common in lineages with adaptations for limited resources than in lineages that do not possess these traits.

Currently, no comparative studies investigating the correlation between monogamy and pair bonding have considered these hypotheses. Future investigations should provide insight into how these different processes affect behavior, population growth, social structure, etc. Investigating the strength and direction of selective pressures that influence both monogamy and social behavior could determine which factors are most important in maintaining both traits.

Coyote model

Female coyotes in populations with low resource availability are more likely to delay reproduction and to have high rates of nulliparity. These behaviors suggest delayed dispersal and alloparenting. As coyotes expanded their species range into novel resource landscapes, their behaviors changed accordingly and female reproductive behavior changes with resource availability (Figure 7). This change in behavior explains some of the variation seen in social composition of coyotes (Camenzind, 1978; Harrison, 1992; and Bekoff and Wells, 1996) and the quick naturalization observed in the eastern United States (Moore and Parker, 1992).

These findings support Powell's model, though the differing methodologies, data recording, and age class assignments among studies forced me to disregard several studies and, thus, my sample sizes are small. Nonetheless, studies that I did not use were consistent with my results. Locations with high evapotranspiration (e.g. Nelson and Lloyd, 2005; Wapenaar et al., 2013) or captive bred animals (e.g. Green et al., 2002) consistently had a high percentage of breeding females of all age groups (as high as 100%). Those with low resource availability had a lower percentage of reproductive females and delayed reproduction (e.g. Poulle et al. 1995; Windberg et al., 1997). For example, studies in New Mexico have consistently reported a low reproductive rate for juveniles (0 to 7%) and comparably low rates of reproduction in adults (48%, 54% and 63%) (Linhart, 1968; Fowler, 1979; Littaur, 1980).

I predict that coyotes in populations that are dense or that have limited resource availability will exhibit more monogamous behavior and delayed reproduction with alloparental care. Whereas coyote populations that are in areas with low populations (such as those recently naturalized), abundant resources availability, or intense hunting efforts will have greater reproductive rates, as more females will reproduce after their first year. This may explain failed attempts at population management (Berger, 2006) and the rapid spread of this species after the removal of the gray wolves.

Prairie vole model

Prairie voles have become the leading model for the study of monogamous behavior. Nonetheless, an explanation for the variation seen in their behaviors has been lacking (e.g. rates of solitary individuals, pair bonding, covert mating, and bond termination). Prior

studies indicate pair bonding behavior does not automatically translate to sexual fidelity (Wolff et al. 2002; Ophir, 2008) and multiple studies have found difference in pair bonding between populations with no underlying explanation. The wide species range of prairie voles and the associated variations in resource availability may explain both the high variation within the species and explain the contrasts found between it and other New World monogamous rodents (Foltz 1981; Ribble 1991; Marfori et al. 1997; Goossens et al. 1998). These findings are consistent with the patterns found in the avian systems (Birkhead, 2000; Westneat and Stewart, 2003)

I found that caloric availability influenced rates of monogamy significantly in prairie voles. All *ad libitum* diets had more mixed paternity per litter than their diet restricted counterparts. Neither nutrient fortification nor phytoestrogen content had a significant influence on monogamy rates. Further, the change in reproductive strategy occurred within a single generation. This explains the conflicting behavior reported within the literature for this species (e.g. Solomon and Getz 1997, Streatfield et al., 2011). Individuals adapt their breeding strategies to conditions that change over time and can be stochastic within in seasons.

Resources influence behavioral factors other than reproduction. Streatfield (2011) demonstrated resource availability had effects on the spacing pattern of female voles and population density. She observed monogamous behavior when population density was the lowest and polyandry (presumably promiscuity) when density was highest. She argued this result was due to encounter rates between opposite-sex conspecifics based on the work of Emlen and Oring, 1977, Kokko and Rankin, 2006 and Iossa et al., 2009. My findings show that resource availability influence monogamy rates. While it is true that resources influence spacing behavior in mammals, population density is not the driving factor in monogamous behavior.

Although I found a relationship between caloric availability and mating systems in prairie voles, multiple proximate factors influence resources and thus the observed mating systems seen in prairie vole populations living in ecologically distinct areas. For example, climatic variation (e.g. precipitation, temperature) will affect resources and thus the mating system seen in a population. Prairie voles live in both mesic and xeric grasslands (Getz

1985) and evidence exists that water availability influences male reproductive anatomy with restricted access to water reducing testosterone levels and decreased testicular mass (Nelson et al. 1989).

I have demonstrated that monogamous behavior is highly plastic in individual mammals; thus, mammals likely have not evolved specific reproductive strategies regulated by any genetic underpinning. Conversely, there is evidence that pair bonding and social behavior have genetic or epigenetic components susceptible to evolutionary processes (Donaldson, 2008; Wallum et al., 2008) though findings conflicting (Fink et al., 2006). Strict genetic regulation of important complex behaviors such as reproductive strategy and social structure are probably maladaptive in species that must adapt quickly to environmental changes.

Qualitative note

This work focused on monogamy. Social structure and pair bonding behavior was beyond its purview. Nonetheless, I could not help but note a qualitative difference between the behaviors of high and low calorie vole groups. Voles on restricted diets were much more aggressive to researchers and conspecifics. A research assistant described the huddling behavior of voles on the non-restrictive diets as a “vole ball”, wherein many of the voles in an enclosure would huddle. Conversely, voles on restrictive diets were rarely seen huddling and then only in pairs.

Future research

While I have provided empirical evidence that supports Powell’s model, I consider this study to be the beginning of more thorough investigations of the variables that influence reproductive plasticity. Over the next two years, I will further examine the hypotheses tested in this dissertation to ascertain the speed and thresholds at which species alter their reproductive strategies. I will accomplish this using the vole model and methods similar to those described previously but changing the resource landscape of females after two litters. Further, I will examine other limiting resources (e.g. water and nesting sites) instead of the caloric variable used in this work. I will also expand on my work by examining meadow vole

(*Microtus pennsylvanicus*) behavior in similar treatment regimes to see if I can duplicate these results in a mammal currently described as non-monogamous.

Other hypotheses that I will explore with the vole model include: 1) Increased temporal variation in resource availability will increase monogamous behavior. 2) Increased population density will increase monogamous behavior, assuming consistent resource availability. 3) Pair bonding behavior negatively correlates with resource availability. The first two hypotheses are further tests of Powell's model. The third will be my first attempt to elucidate the driving factors behind pair bonding and its relationship to monogamy (Table 4). Combined, these analyses may explain the variation in social and sexual strategies observed in individuals may allow for the discovery of the pathways that lead to bonded, monogamous relationships in some mammals.

Further research questions

1. What sorts of ecological factors should favor pair bonds, but not monogamy, and vice versa?
2. Does the relationship between monogamy and resource availability change in taxa with short gestation or external fertilization such as amphibians, fish, or insects?
3. If pair bonding is genetic, does monogamy differ between pair bonding and non-bonding lineages?
4. How does the evolution of sterile worker castes in insects and mammals influenced by resource availability?
5. How might Hamilton's rule affect behavior in individuals that practice delayed dispersal?
6. How important is cooperation, coordination and offspring care and in pair bonding?
7. Is any evidence available on reciprocal social selection, in which monogamy favors cooperation and cooperative behaviors favor monogamy through policing or benefits of increased productivity?

The importance of terminology

The inconstant use of terminology hampers our ability to study the ecological pressures leading to an animal's choice of reproductive strategy. Researchers need to adopt consistent, discrete, clear definitions for the reproductive strategies that currently fall under the umbrella of "monogamy". While much of the literature use the adjectives "social" and "sexual" or "genetic" to distinguish between the behavior and the reproductive strategy, I have used the terms pair bond and monogamy.

Using clearly defined terminology is critical to the study and understanding of the reproductive strategies and social bonding in mammals. Differing factors influence the persistence of polygyny, pair bonding, monogamy, or polyandry as exemplified by variation in their co-occurrence in prairie voles, canids, lemurs and others. If we continue to confuse and blend the terms we use in documenting behavior, we may miss or misinterpret the underlying processes behind these behaviors. I propose we stop using the term social monogamy as a descriptor of pair bonding behavior as it promotes an assumption of offspring parentage, conflates a mating with a social organization and has a differing suite of selective pressures that maintain the behavior from those that maintain monogamy.

I recognize the difficulty of lexical shifts. Yet they have occurred in science before, e.g. clarification of the terms global warming and climate change. At the very least, researchers should clearly define the terms they use in publications to avoid confusion. For example, the literature often cites humans as being a monogamous species. Plavcan (2012) and Lukas and Clutton-Brock (2013) both state that humans recently evolved to be monogamous, based on the behavior of monogamous gibbons compared to other polygynous apes. Langergraber and colleagues (2013) suggested that the evolution of human monogamy was driven by a reduction in female density that led to an inability to guard multiple females. Gavrillets (2012) argued that human monogamy arose due to a need for extended paternal care. What each of these studies miss is that humans, as a species, are not monogamous. People in western culture commonly practice pair bonding but are largely serially monogamous with some examples of true monogamy. This cultural experience confuses the language we use to describe our own reproductive pattern. As other mammalian species, human mating systems are extremely flexible and are a mix of polygyny, selective

promiscuity, monogamy, and polyandry, with polygynous societies by far the most common (Marlow, 2003; Henrich, 2012; and Layton, 2012). Covert mating and short-term sexual bonds are frequent and characterize both sexes (Fortunato and Archetti, 2010). I contend that our flexibility is due to our use of diverse habitats and subsequent variation in resource availability. Further evidence supporting this argument is the location of the few polyandrous human cultures, the Tibetan plateau, Arctic Circle, and Brazilian highlands. As Powell's model predicts, these locations have low abundance and high temporal and spatial variability of resources. Future work will examine reproductive plasticity within widely distributed mammals, such as humans, domestic dogs, and rats in varying environments further testing intraspecific variation.

I have provided empirical evidence of the ecological process that drive monogamous behavior in mammals; however, complex behaviors are not isolated, rather they are highly interconnected components of an organism and its environment. Resources influence reproductive behavior, which may in turn may influence other facets of behavior by increasing sibling relatedness and cooperation via Hamilton's rule, population dynamics, home range, etc., all of which may be influenced by resource availability. (Figure 11).

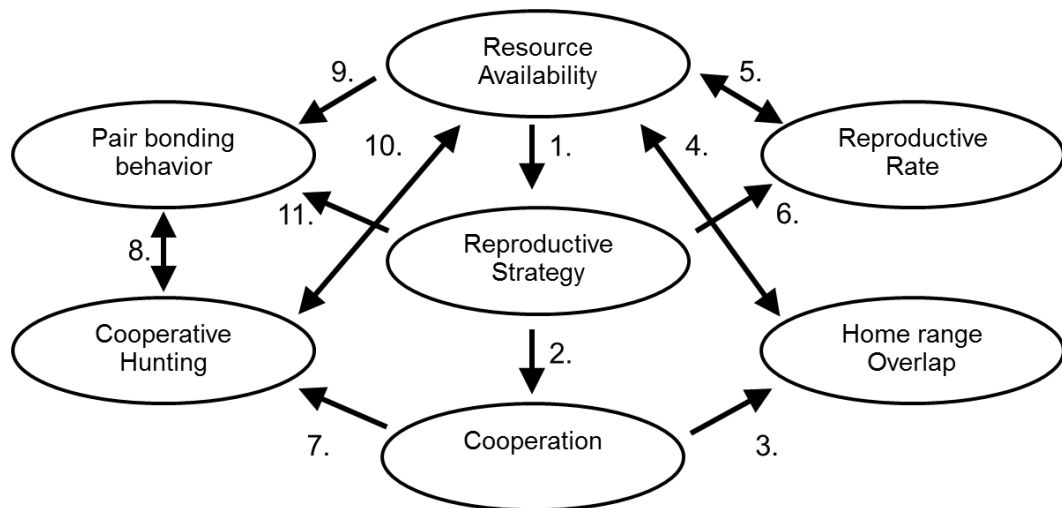


Figure 11. Possible interactions between behavioral fields based on the literature. 1. Powell, 1987 2. Dillard and Westneat, 2016 3. Macdonald and Johnson, 2015 4. Macdonald, 1983 5. Clutton-Brock and Parker, 1992 6. Knowlton 1972 7. Matani et al., 2000 8. Asa and Valdespino, 1998 9. Lukas and Clutton-Brock, 2013 10. Packer and Rutten 1988 11. Huck et al., 2014

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APPENDICES

Appendix A
Evapotranspiration (EVT) of Species Ranges and Reproductive Strategy

Common name	Scientific name	EVT	Monogamy	Reference
Aardvark	<i>Orycteropus afer</i>	449.5688	No	Shoshani et al. 1988 Mamm Sp
Aardwolf	<i>Proteles cristata</i>	69.31662	pair bond	Dalerum 2007
Abbott's Duiker	<i>Cephalophus spadix</i>	1125.844	No	Nowak 1999 Mammal Book
Aberdare Mole Shrew	<i>Surdisorex norae</i>	1171.747	No	Murariu & Benedek 2005 Grig Antip
Abyssinian Hare	<i>Lepus habessinicus</i>	338.2448	No	Nowak 1999 Mammal Book
Addax	<i>Addax nasomaculatus</i>	183.3642	No	Nowak 1999 Mammal Book
Aders' Duiker	<i>Cephalophus adersi</i>	1272.089	No	Nowak 1999 Mammal Book
Afghan Pika	<i>Ochotona rufescens</i>	168.8102	No	Nowak 1999 Mammal Book
Afghan Vole	<i>Blanfordimys afghanus</i>	167.7215	No	Nowak 1999 Mammal Book
African Arvicanthus	<i>Arvicanthus niloticus</i>	121.9339	No	Nowak 1999 Mammal Book
African Black Shrew	<i>Crocidura nigrofusca</i>	690.4712	No	Murariu & Benedek 2005 Grig Antip
African Brush-tailed Porcupine	<i>Atherurus africanus</i>	1129.759	pair bond	Nowak 1999 Mammal Book
African Buffalo	<i>Syncerus caffer</i>	574.7554	No	Turner et al. 2005 J Zool
African Bush Elephant	<i>Loxodonta africana</i>	1076.25	No	Laursen & Bekoff 1978 Mamm Sp
African Civet	<i>Civettictis civetta</i>	874.2	No	Ray 1995
African Clawless Otter	<i>Aonyx capensis</i>	426.3439	No	Dalerum 2007
African Dusky Shrew	<i>Crocidura caliginea</i>	1286.424	No	Murariu & Benedek 2005 Grig Antip
African Giant Shrew	<i>Crocidura olivieri</i>	291.6669	No	Murariu & Benedek 2005 Grig Antip
African Palm Civet	<i>Nandinia binotata</i>	1236.506	No	Dalerum 2007
African Pygmy Squirrel	<i>Myosciurus pumilio</i>	1245.899	No	Emmons 1980
African Savanna Hare	<i>Lepus microtis</i>	538.2175	No	Nowak 1999 Mammal Book
African Sheath-tailed Bat	<i>Coleura afra</i>	938.3136	No	Isaac et al. 2005
African Straw-colored Fruit Bat	<i>Eidolon helvum</i>	1498.48	No	Isaac et al. 2005

African Striped Weasel	Poecilogale albinucha	570.4	No	Dalerum 2007
African White-tailed Rat	Mystromys albicaudatus	256.1254	No	Ockerse 1953 JDRE
African wild dog	Lycaon pictus	252.1677	Yes	Dalerum 2007/Girman et al. 1997
Agile Antechinus	Antechinus agilis	676.4466	No	Kraaijeveld 2002
Agile Gibbon	Hylobates agilis	1264.067	pair bond	Dallmann & Geismann 2001
Agile Mangabey	Cercocebus agilis	1041.374	No	Nowak 1999 Mammal Book
Akodont-like Hociudo	Oxymycterus akodontius	712.9277	No	Nowak 1999 Mammal Book
Alai Mole Vole	Ellobius alaicus	452.8337	pair bond	Nowak 1999 Mammal Book
Alaska Tiny Shrew	Sorex yukonicus	354.0661	No	Murariu & Benedek 2005 Grig Antip
Alaskan Hare	Lepus othus	342.263	No	Nowak 1999 Mammal Book
Alcathoe Myotis	Myotis alcathoe	571.7298	No	Nowak 1999 Mammal Book
Alcorn's Pocket Gopher.	Pappogeomys alcorni	847.4993	No	Lacey et al. 2000 Book Subterranean Rodents
Alexander's Kusimanse	Crossarchus alexandri	1164.275	pair bond	Dalerum 2007
Allegheny Woodrat	Neotoma magister	756.2356	No	Nowak 1999 Mammal Book
Allen's Cotton Rat	Sigmodon alleni	981.6672	No	Nowak 1999 Mammal Book
Allen's Swamp Monkey	Allenopithecus nigroviridis	1156.455	No	Nowak 1999 Mammal Book
Allied Rock-wallaby	Petrogale assimilis	321.5199	No	Spencer et al. 2004 BES
Alpine Chamois	Rupicapra rupicapra	557.6381	No	Nowak 1999 Mammal Book
Alpine Ibex	Capra ibex	516.7765	No	Nowak 1999 Mammal Book
Alpine Marmot	Marmota marmota	593.9778	Yes	Blumstein&Armitage1999/Goossen1998
Alpine Musk Deer	Moschus chrysogaster	495.5931	No	Nowak 1999 Mammal Book
Alpine Pika	Ochotona alpina	358.1057	No	Gliwicz et al. 2005 J Zool
Alpine Shrew	Sorex alpinus	353.755	No	Murariu & Benedek 2005 Grig Antip
Alston's Cotton Rat	Sigmodon alstoni	1165.7	No	Nowak 1999 Mammal Book
Altai Birch Mouse	Sicista napaea	344.7795	No	Nowak 1999 Mammal Book
Altai Zokor	Myospalax myospalax	384.4666	No	Burda et al. 2000

Amami Rabbit	<i>Pentalagus furnessi</i>	1213.892	No	Nowak 1999 Mammal Book
Amazon Bamboo Rat	<i>Dactylomys dactylinus</i>	1332.65	No	Nowak 1999 Mammal Book
Amazon Black Howler	<i>Alouatta nigerrima</i>	1431.422	No	Nowak 1999 Mammal Book
Amazonian Hociudo	<i>Oxymycterus amazonicus</i>	1440.165	No	Nowak 1999 Mammal Book
American Badger	<i>Taxidea taxus</i>	466.675	No	Dalerum 2007
American Beaver	<i>Castor canadensis</i>	435.3863	pair bond	Svendsen 1980 Am Mid Nat
American Bison	<i>Bison bison</i>	345.1833	No	Nowak 1999 Mammal Book
American Black Bear	<i>Ursus americanus</i>	471.1669	No	Dalerum 2007
American Marten	<i>Martes americana</i>	450.1789	No	Dalerum 2007
American Mink	<i>Neovison vison</i>	510.8929	No	Zschille et al. 2012
American Pika	<i>Ochotona princeps</i>	690.8	No	Nowak 1999 Mammal Book
American Pygmy Shrew	<i>Sorex hoyi</i>	338.8082	No	Murariu & Benedek 2005 Grig Antip
American Water Shrew	<i>Sorex palustris</i>	393.8703	No	Murariu & Benedek 2005 Grig Antip
Amur Hedgehog	<i>Erinaceus amurensis</i>	736.2269	No	Nowak 1999 Mammal Book
Andaman Shrew	<i>Crocidura andamanensis</i>	1448.785	No	Murariu & Benedek 2005 Grig Antip
Andaman Spiny Shrew	<i>Crocidura hispida</i>	1400.642	No	Murariu & Benedek 2005 Grig Antip
Andean Colilargo	<i>Oligoryzomys andinus</i>	816.0275	No	Nowak 1999 Mammal Book
Andean Long-clawed Akodont	<i>Chelemys macronyx</i>	215.8168	No	Nowak 1999 Mammal Book
Andean Mountain Cavy	<i>Microcavia niata</i>	282.4744	No	Ebertsberger & Cofre 2001 BE
Andean Pericote	<i>Phyllotis andium</i>	552.6583	No	Ramirez et al. 2002 Rev Chil Hist nat
Anderson's Gerbil	<i>Gerbillus andersoni</i>	218.9899	No	Randall 2007 Rodent Societies Book
Anderson's Shrew	<i>Suncus stoliczkanus</i>	416.55	No	Murariu & Benedek 2005 Grig Antip
Andrew's Three-toed Jerboa	<i>Stylopipus andrewsi</i>	189.7409	No	Randall 2007 Rodent societies book
Angola Colobus	<i>Colobus angolensis</i>	807.504	No	Nowak 1999 Mammal Book
Angolan Kusimanse	<i>Crossarchus ansorgei</i>	1230.936	pair bond	Dalerum 2007
Angolan Talapoin	<i>Miopithecus talapoin</i>	892.4681	No	Nowak 1999 Mammal Book

Angoni Vlei Rat	<i>Otomys angoniensis</i>	639.115	No	Bronner & Meester 1988 Mamm Sp
Angular Hociبدو	<i>Oxymycterus angularis</i>	973.0762	No	Nowak 1999 Mammal Book
Anhui Musk Deer	<i>Moschus anhuiensis</i>	786.9491	No	Nowak 1999 Mammal Book
Ankarana Sportive Lemur	<i>Lepilemur ankaranensis</i>	1145.09	No	Nowak 1999 Mammal Book
Annamite Muntjac	<i>Muntiacus truongsongensis</i>	1261.486	No	Nowak 1999 Mammal Book
Annamite Striped Rabbit	<i>Nesolagus timminsi</i>	1250.461	No	Richardson & Walton 1989 Faun Austr
Anoa	<i>Bubalus depressicornis</i>	1446.347	No	Nowak 1999 Mammal Book
Ansell's Shrew	<i>Crocidura ansellorum</i>	763.0699	No	Murariu & Benedek 2005 Grig Antip
Antelope Jackrabbit	<i>Lepus alleni</i>	375.3322	No	Nowak 1999 Mammal Book
Antillean Fruit-eating Bat	<i>Brachyphylla cavernarum</i>	1334.463	No	Swanepoel & Genoways 1983 Mamm Sp
Apennine Shrew	<i>Sorex samniticus</i>	461	No	Murariu & Benedek 2005 Grig Antip
Appalachian Cottontail	<i>Sylvilagus obscurus</i>	673.7955	No	Nowak 1999 Mammal Book
Aquatic Genet	<i>Genetta piscivora</i>	1340.805	No	Rompaey 1988
Arabian Jird	<i>Meriones arimalius</i>	17.75649	No	Randall 2007 Rodent Societies Book
Arabian Oryx	<i>Oryx leucoryx</i>	112.8514	No	Nowak 1999 Mammal Book
Arabian Shrew	<i>Crocidura arabica</i>	177.5231	No	Murariu & Benedek 2005 Grig Antip
Arctic Ground Squirrel	<i>Spermophilus parryii</i>	366.4409	No	Blumstein & Armitage 1999 Oikos
Arctic Hare	<i>Lepus arcticus</i>	273.1913	No	Best & Henry 1994 Mamm Sp
Arctic Shrew	<i>Sorex arcticus</i>	345.3534	No	Murariu & Benedek 2005 Grig Antip
Argentine Plains Viscacha	<i>Lagostomus maximus</i>	382.6414	No	Nowak 1999 Mammal Book
Argentine Tuco-tuco	<i>Ctenomys argentinus</i>	546.3886	No	Lacey & Ebensperger 2007 Rodent Societies
Arizona Cotton Rat	<i>Sigmodon arizonae</i>	310.7305	No	Nowak 1999 Mammal Book
Arizona Gray Squirrel	<i>Sciurus arizonensis</i>	239.1872	No	Best & Riedel 1995 Mamm Sp
Arizona Pocket Mouse	<i>Perognathus amplus</i>	95.83388	No	Jones 1985 J Mamm
Arizona Woodrat	<i>Neotoma devia</i>	90.60765	No	Nowak 1999 Mammal Book
Armenian Birch Mouse	<i>Sicista armenica</i>	529.1979	No	Nowak 1999 Mammal Book

Armenian Shrew	<i>Crocidura armenica</i>	278.2309	No	Murariu & Benedek 2005 Grig Antip
Armored Shrew	<i>Scutisorex somereni</i>	832.9184	No	Murariu & Benedek 2005 Grig Antip
Ash-gray Pseudomys	<i>Pseudomys albocinereus</i>	475.9207	No	Anstee et al. 1997 Wildl Res
Ashy Black Titi	<i>Callicebus cinerascens</i>	1423.824	pair bond	Kappeler 1999 Primate Communities Book
Ashy Chinchilla Rat	<i>Abrocoma cinerea</i>	403.9237	No	Nowak 1999 Mammal Book
Asian Black Bear	<i>Ursus thibetanus</i>	716.9278	No	Dalerum 2007
Asian Elephant	<i>Elephas maximus</i>	957.7858	No	Shoshani & Eisenberg 1982 Mamm Sp
Asian Gray Shrew	<i>Crocidura attenuata</i>	888.054	No	Murariu & Benedek 2005 Grig Antip
Asian Highland Shrew	<i>Suncus montanus</i>	1398.536	No	Murariu & Benedek 2005 Grig Antip
Asian House Shrew	<i>Suncus murinus</i>	1166.341	No	Murariu & Benedek 2005 Grig Antip
Asian Lesser White-toothed Shrew	<i>Crocidura shantungensis</i>	663.7418	No	Murariu & Benedek 2005 Grig Antip
Asian Palm Civet	<i>Paradoxurus hermaphroditus</i>	1458.795	No	Su & Sale 2007
Asiatic Short-tailed Shrew	<i>Blarinella quadraticauda</i>	784.7804	No	Murariu & Benedek 2005 Grig Antip
Assam Macaque	<i>Macaca assamensis</i>	912.5837	No	Nowak 1999 Mammal Book
Assam Mole Shrew	<i>Anourosorex assamensis</i>	1078.142	No	Murariu & Benedek 2005 Grig Antip
Atlantic Bamboo Rat	<i>Kannabateomys amblyonyx</i>	855.4648	No	Nowak 1999 Mammal Book
Atlantic Forest Hociudo	<i>Oxymycterus dasytrichus</i>	1355.414	No	Nowak 1999 Mammal Book
Atlantic Forest Nectomys	<i>Nectomys squamipes</i>	377.6	No	Ernest 1986 Mamm Sp
Atlantic Titi	<i>Callicebus personatus</i>	1020.341	pair bond	Kappeler 1999 Primate Communities Book
Attwater's Pocket Gopher.	<i>Geomys attwateri</i>	687.5112	No	Nowak 1999 Mammal Book
Aye-aye	<i>Daubentonia madagascariensis</i>	1305	No	Nowak 1999 Mammal Book
Azara's Akodont	<i>Akodon azarae</i>	501.3011	No	Suarez & Kravetz 2001 Iheringia
Azara's Night Monkey	<i>Aotus azarae</i>	1067.527	Yes	Nowak 1999 Mammal Book/Huck, 2014
Azara's Tuco-tuco	<i>Ctenomys azarae</i>	226.5995	No	Lacey & Ebensperger 2007 Rodent Societies
Azumi Shrew	<i>Sorex hosonoi</i>	709.304	No	Murariu & Benedek 2005 Grig Antip
Babault's Mouse Shrew	<i>Myosorex babaulti</i>	996.0144	No	Murariu & Benedek 2005 Grig Antip

Bahamian Hutia	<i>Geocapromys ingrahami</i>	1009.5	No	Nowak 1999 Mammal Book
Bailey's Pocket Mouse	<i>Chaetodipus baileyi</i>	150.1617	No	Paulson 1988 Mamm Sp
Bailey's Shrew	<i>Crocidura baileyi</i>	476.14	No	Murariu & Benedek 2005 Grig Antip
Baird's Pocket Gopher.	<i>Geomys breviceps</i>	719.0419	No	Nowak 1999 Mammal Book
Baird's Shrew	<i>Sorex bairdi</i>	449.173	No	Murariu & Benedek 2005 Grig Antip
Baird's Tapir	<i>Tapirus bairdii</i>	1185.28	No	Nowak 1999 Mammal Book
Bald Uacari	<i>Cacajao calvus</i>	1374.243	No	Bowler & Bodmer 2009 Am J Primat
Bale Mountains Vervet	<i>Chlorocebus djamdjamensis</i>	1073.777	No	Mekonnen 2010
Bale Shrew	<i>Crocidura bottegoides</i>	752.5483	No	Murariu & Benedek 2005 Grig Antip
Balikun Jerboa	<i>Allactaga balikunica</i>	149.5086	No	Randall 2007 Rodent societies book
Balkan Blind Mole Rat	<i>Spalax graecus</i>	508.696	No	Nevo 2007 Rodent Societies book
Balkan Snow Vole	<i>Dinaromys bogdanovi</i>	715.1	No	Nowak 1999 Mammal Book
Baluchistan Gerbil	<i>Gerbillus nanus</i>	208.4491	No	Randall 2007 Rodent Societies Book
Banded Mongoose	<i>Mungos mungo</i>	1235.027	No	Dalerum 2007
Banded Surili	<i>Presbytis femoralis</i>	1302.613	No	Nowak 1999 Mammal Book
Bandro	<i>Hapalemur alaotrensis</i>	1172.329	No	Nievergelt et al. 2002 AJP
Bangs's Mountain Squirrel	<i>Syntheosciurus brochus</i>	1326.787	No	Wells & Giacalone 1985
Bank Vole	<i>Myodes glareolus</i>	596.1515	No	Nowak 1999 Mammal Book
Banka Shrew	<i>Crocidura vosmaeri</i>	1382.717	No	Murariu & Benedek 2005 Grig Antip
Banner-tailed Kangaroo Rat	<i>Dipodomys spectabilis</i>	145.0767	No	Randall 1991 BES
Banteng	<i>Bos javanicus</i>	1333.362	No	Nowak 1999 Mammal Book
Baptista Lake Titi	<i>Callicebus baptista</i>	1351.482	pair bond	Kappeler 1999 Primate Communities Book
Barasingha	<i>Rucervus duvaucelii</i>	435.351	No	Nowak 1999 Mammal Book
Barbara Brown's Titi	<i>Callicebus barbarabrownae</i>	724.4319	pair bond	Kappeler 1999 Primate Communities Book
Barbary Ground Squirrel	<i>Atlantoxerus getulus</i>	114.8019	No	Gouat & Yahyaoui 2001 Book
Barbary Macaque	<i>Macaca sylvanus</i>	331.2929	No	Nowak 1999 Mammal Book

Barbary Sheep	<i>Ammotragus lervia</i>	141.6903	No	Nowak 1999 Mammal Book
Bare-eared Squirrel Monkey	<i>Saimiri ustus</i>	1366.034	No	Boinski et al. 2002 Behav
Bare-tailed Woolly Opossum	<i>Caluromys philander</i>	1200.151	No	Julien-Laferriere 1997 J Mamm
Barren Ground Shrew	<i>Sorex ugyunak</i>	257.2023	No	Murariu & Benedek 2005 Grig Antip
Bate's Shrew	<i>Crocidura batesi</i>	1228.7	No	Murariu & Benedek 2005 Grig Antip
Bat-eared Fox	<i>Otocyon megalotis</i>	843.4127	Yes	Dalerum 2007/ Wright et al., 2010
Bates's Dwarf Antelope	<i>Neotragus batesi</i>	1283.547	No	Nowak 1999 Mammal Book
Bawean Deer	<i>Axis kuhlii</i>	1459.311	No	Nowak 1999 Mammal Book
Bay Duier	<i>Cephalophus dorsalis</i>	1054.25	No	Nowak 1999 Mammal Book
Bearded Pig	<i>Sus barbatus</i>	1462.833	No	Clayton & Macdonald 1999
Beccari's Shrew	<i>Crocidura beccarii</i>	1394.54	No	Murariu & Benedek 2005 Grig Antip
Bechstein's Myotis	<i>Myotis bechsteinii</i>	582.0987	No	Kerth et al. 2002
Beech Marten	<i>Martes foina</i>	490.6772	No	Dalerum 2007
Beira	<i>Dorcatragus megalotis</i>	122.0266	No	Giotto et al. 2008 Eur J Wildl Res
Beisa	<i>Oryx beisa</i>	415.9509	No	Nowak 1999 Mammal Book
Belding's Ground Squirrel	<i>Spermophilus beldingi</i>	279.9783	No	Blumstein & Armitage 1999 Oikos
Bengal Fox	<i>Vulpes bengalensis</i>	328.3292	pair bond	Dalerum 2007
Bengal Slow Loris	<i>Nycticebus bengalensis</i>	1385.862	No	Wiens 2002 PhD Thesis
Bengal Slow Loris	<i>Nycticebus coucang</i>	1373.1	No	Wiens 2002 PhD Thesis
Benito Leaf-nosed Bat	<i>Hipposideros beatus</i>	1046.921	pair bond	Isaac et al. 2005
Bennett's Chinchilla Rat	<i>Abrocoma bennettii</i>	237.3181	No	Ebensperger & Blumstein 2006 BE
Berbera Gerbil	<i>Gerbillus acticola</i>	148.28	No	Randall 2007 Rodent Societies Book
Berdmore's Berylmys	<i>Berylmys berdmorei</i>	1431.476	No	Nowak 1999 Mammal Book
Berg's Tuco-tuco	<i>Ctenomys bergi</i>	319.3964	No	Lacey & Ebensperger 2007 Rodent Societies
Berthe's Mouse Lemur	<i>Microcebus berthae</i>	1257.554	No	Dammhahn & Kappeler 2005
Bharal	<i>Pseudois nayaur</i>	135.9776	No	Wang & Hoffmann 1987 Mamm Sp

Bicolored Musk Shrew	<i>Crocidura fuscomurina</i>	531.9457	No	Murariu & Benedek 2005 Grig Antip
Bicolored Shrew	<i>Crocidura leucodon</i>	359.0083	No	Murariu & Benedek 2005 Grig Antip
Bicolored-spined Porcupine	<i>Coendou bicolor</i>	1295.5	No	Shelley & Blumberg 2005 BE
Bifax Long-eared Bat	<i>Nyctophilus bifax</i>	674.6522	No	Lunney 1995
Big Brown Bat	<i>Eptesicus fuscus</i>	947.034	No	Metheny et al. 2008 BES
Big Mexican Small-eared Shrew	<i>Cryptotis magna</i>	1161.187	No	Murariu & Benedek 2005 Grig Antip
Big Pocket Gopher.	<i>Orthogeomys lanius</i>	1013.115	No	Goldman 1939 J Mamm
Big-eared Climbing Rat	<i>Otodylomys phyllotis</i>	1311.029	No	Lawlor 1982 Mamm Sp
Big-eared Woodrat	<i>Neotoma macrotis</i>	812.2	No	Nowak 1999 Mammal Book
Bighorn Sheep	<i>Ovis canadensis</i>	375.2318	No	Ruckstuhl 1999 Behav
Bioko Forest Shrew	<i>Sylvisorex isabellae</i>	1103.105	No	Murariu & Benedek 2005 Grig Antip
Black Agouti	<i>Dasyprocta fuliginosa</i>	1097.261	pair bond	Ebertsberger & Cofre 2001 BE
Black and Rufous Elephant Shrew	<i>Rhynchocyon petersi</i>	1376.44	pair bond	Rathbun & Rathbun 2006 J Zool
Black Bearded Saki	<i>Chiropotes satanas</i>	1441.483	No	Veiga et al. 2006 IJP
Black Capuchin	<i>Cebus nigrinus</i>	947.0836	No	Nowak 1999 Mammal Book
Black Colobus	<i>Colobus satanas</i>	1235.162	No	Nowak 1999 Mammal Book
Black Crested Mangabey	<i>Lophocebus aterrimus</i>	1091.773	No	Nowak 1999 Mammal Book
Black Duiker	<i>Cephalophus niger</i>	996.35	No	Nowak 1999 Mammal Book
Black Flying Fox	<i>Pteropus alecto</i>	531.9856	No	Isaac et al. 2005
Black Giant Squirrel	<i>Ratufa bicolor</i>	1254.075	No	Dobroruka 1975 Int Zoo Yb
Black Howler	<i>Alouatta caraya</i>	753.8393	No	Nowak 1999 Mammal Book
Black Jackrabbit	<i>Lepus insularis</i>	116.5107	No	Nowak 1999 Mammal Book
Black Lemur	<i>Eulemur macaco</i>	1614.394	No	Digby & Kahlenberg 2002 Primates
Black Lion Tamarin	<i>Leontopithecus chrysopygus</i>	712.3171	pair bond	Albernaz 1997
Black Muntjac	<i>Muntiacus crinifrons</i>	799.1439	No	Nowak 1999 Mammal Book
Black Musk Deer	<i>Moschus fuscus</i>	787.6174	No	Nowak 1999 Mammal Book

Black Myotis	<i>Myotis nigricans</i>	597.2032	No	Nowak 1999 Mammal Book
Black Rhinoceros	<i>Diceros bicornis</i>	106.8831	No	Tatman et al. 2000 Afr J Ecol
Black Shrew	<i>Suncus ater</i>	1305.201	No	Murariu & Benedek 2005 Grig Antip
Black Squirrel Monkey	<i>Saimiri vanzolinii</i>	1347.023	No	Boinski et al. 2002 Behav
Black Tamarin	<i>Saguinus niger</i>	1408.072	pair bond	Porter 2001 Folia Primat
Black Titi	<i>Callicebus lugens</i>	1339.876	pair bond	Kappeler 1999 Primate Communities Book
Black Wildebeest	<i>Connochaetes gnou</i>	286.1561	No	Nowak 1999 Mammal Book
Black-and-white Ruffed Lemur	<i>Varecia variegata</i>	1335.88	No	Digby & Kahlenberg 2002 Primates
Black-backed Tuco-tuco	<i>Ctenomys dorsalis</i>	317.6433	No	Lacey & Ebensperger 2007 Rodent Societies
Blackbuck	<i>Antilope cervicapra</i>	513.1191	No	Isvaran 2005 BES
Black-capped Marmot	<i>Marmota camtschatica</i>	373.2449	pair bond	Blumstein & Armitage 1999 Oikos
Black-capped Squirrel Monkey	<i>Saimiri boliviensis</i>	833.3613	No	Boinski et al. 2002 Behav
Black-clawed Brush-furred Rat	<i>Lophuromys melanonyx</i>	1023.906	No	Nowak 1999 Mammal Book
Black-footed Cat	<i>Felis nigripes</i>	410.7893	No	Munoz-Duran 2002 EER
Black-footed Colilargo	<i>Oligoryzomys nigripes</i>	768.6364	No	Nowak 1999 Mammal Book
Black-footed Ferret	<i>Mustela nigripes</i>	325.1361	No	Dalerum 2007
Black-footed Gray Langur	<i>Semnopithecus hypoleucos</i>	1367.041	No	Nowak 1999 Mammal Book
Black-footed Shrew	<i>Crocidura nigripes</i>	1429.719	No	Murariu & Benedek 2005 Grig Antip
Black-fronted Duiker	<i>Cephalophus nigrifrons</i>	875.9415	No	Nowak 1999 Mammal Book
Black-fronted Titi	<i>Callicebus nigrifrons</i>	765.976	pair bond	Kappeler 1999 Primate Communities Book
Black-headed Night Monkey	<i>Aotus nigriceps</i>	1370.575	pair bond	Nowak 1999 Mammal Book
Black-headed Spider Monkey	<i>Ateles fusciceps</i>	1293.618	No	Nowak 1999 Mammal Book
Blackish Small-eared Shrew	<i>Cryptotis nigrescens</i>	1194.663	No	Murariu & Benedek 2005 Grig Antip
Blackish White-toothed Shrew	<i>Crocidura nigricans</i>	633.9251	No	Murariu & Benedek 2005 Grig Antip
Black-mantled Tamarin	<i>Saguinus nigricollis</i>	1385.366	pair bond	Porter 2001 Folia Primat
Black-shanked Douc Langur	<i>Pygathrix nigripes</i>	1256.856	No	Kappeler 1999 Primate Communities Book

Black-striped Capuchin	<i>Cebus libidinosus</i>	873.1295	No	Nowak 1999 Mammal Book
Black-striped Sportive Lemur	<i>Lepilemur dorsalis</i>	1442.679	No	Nowak 1999 Mammal Book
Black-tailed Jackrabbit	<i>Lepus californicus</i>	155.1143	No	Nowak 1999 Mammal Book
Black-tailed Prairie Dog	<i>Cynomys ludovicianus</i>	321.2171	No	Hoogland 1981
Black-tailed Thallomys	<i>Thallomys nigricauda</i>	480.8434	No	Eccard et al. 2004 J Mamm
Black-tufted Gerbil	<i>Gerbillus famulus</i>	206.5151	No	Randall 2007 Rodent Societies Book
Black-tufted Marmoset	<i>Callithrix penicillata</i>	703.7996	pair bond	Fernandez-Duque et al. 2012
Black-wristed Deermouse	<i>Peromyscus melanocarpus</i>	1134.5	pair bond	Rickart & Robertson 1985 Mamm Sp
Blanford's Jerboa	<i>Jaculus blanfordi</i>	106.1456	No	Randall 2007 Rodent societies book
Blanford's Fox	<i>Vulpes cana</i>	79.40405	pair bond	Munoz-Duran 2002 EER
Blarinine Akodont	<i>Blarinomys breviceps</i>	1230.98	No	Matson & Abravaya 1977 Mamm Sp
Blick's Arvicantis	<i>Arvicantis blicki</i>	943.5577	No	Nowak 1999 Mammal Book
Blue Duiker	<i>Philantomba monticola</i>	1247	No	Jarman 1974 Behav
Blue Monkey	<i>Cercopithecus mitis</i>	1118.031	No	Foerster 2008 Primates
Blue Wildebeest	<i>Connochaetes taurinus</i>	346.3156	No	Nowak 1999 Mammal Book
Blyth's Horseshoe Bat	<i>Rhinolophus lepidus</i>	1252.029	No	Rossiter 2012
Bobak Marmot	<i>Marmota bobak</i>	333.6854	pair bond	Blumstein & Armitage 1999 Oikos
Bobcat	<i>Lynx rufus</i>	571.0771	No	Dalerum 2007
Bobrinski's Jerboa	<i>Allactodipus bobrinskii</i>	168.5958	No	Randall 2007 Rodent societies book
Bocage's African Fat Mouse	<i>Steatomys bocagei</i>	839.6158	No	Nowak 1999 Mammal Book
Bolaños Woodrat	<i>Neotoma palatina</i>	515.1948	No	Nowak 1999 Mammal Book
Bolivian Bamboo Rat	<i>Dactylomys boliviensis</i>	1312.142	No	Nowak 1999 Mammal Book
Bolivian Red Howler	<i>Alouatta sara</i>	1212.575	No	Nowak 1999 Mammal Book
Bolivian Tuco-tuco	<i>Ctenomys boliviensis</i>	713.976	No	Lacey & Ebensperger 2007 Rodent Societies
Bonetto's Tuco-tuco	<i>Ctenomys bonettoi</i>	560.2757	No	Lacey & Ebensperger 2007 Rodent Societies
Bongo	<i>Tragelaphus eurycerus</i>	978.8081	No	Nowak 1999 Mammal Book

Bonin Flying Fox	<i>Pteropus pselaphon</i>	1297.447	No	Sugita 2009
Bonnet Macaque	<i>Macaca radiata</i>	665.8123	No	Nowak 1999 Mammal Book
Bonobo	<i>Pan paniscus</i>	1149.688	No	Nowak 1999 Mammal Book
Booted Macaque	<i>Macaca ochreata</i>	1300.85	No	Nowak 1999 Mammal Book
Bornean Orangutan	<i>Pongo pygmaeus</i>	1366.694	No	Nowak 1999 Mammal Book
Bornean Pgymy Shrew	<i>Suncus hosei</i>	1375.449	No	Murariu & Benedek 2005 Grig Antip
Bornean Shrew	<i>Crocidura foetida</i>	1250.386	No	Murariu & Benedek 2005 Grig Antip
Bornean Water Shrew	<i>Chimarrogale phaeura</i>	1469.852	No	Murariu & Benedek 2005 Grig Antip
Bornean White-bearded Gibbon	<i>Hylobates albibarbis</i>	979.15	Yes	Dallmann & Geismann 2001/Oka 2001
Bornean Yellow Muntjac	<i>Muntiacus atherodes</i>	1269.083	No	Nowak 1999 Mammal Book
Botta's Pocket Gopher.	<i>Thomomys bottae</i>	402.45	No	Nowak 1999 Mammal Book
Bottego's Shrew	<i>Crocidura bottegi</i>	784.884	No	Murariu & Benedek 2005 Grig Antip
Bower's Berylmys	<i>Berylmys bowersi</i>	991.5116	No	Nowak 1999 Mammal Book
Brandt's Hamster	<i>Mesocricetus brandti</i>	371.5648	No	Nowak 1999 Mammal Book
Brandt's Hedgehog	<i>Paraechinus hypomelas</i>	142.8	No	Nowak 1999 Mammal Book
Brandt's Vole	<i>Lasiopodomys brandtii</i>	294.4986	No	Zhang et al. 2006 Folia Zool
Brandt's Myotis	<i>Myotis brandtii</i>	525.0324	No	Nowak 1999 Mammal Book
Brants's African Climbing Mouse	<i>Dendromus mesomelas</i>	680.2352	No	Nowak 1999 Mammal Book
Brants's Whistling Rat	<i>Parotomys brantsii</i>	92.65643	No	Jackson 2000 J Arid Env
Brazilian Colilargo	<i>Oligoryzomys eliurus</i>	795.221	No	Nowak 1999 Mammal Book
Brazilian Gracile Opossum	<i>Gracilinanus microtarsus</i>	1020.036	No	Martins et al. 2006
Brazilian Guinea Pig	<i>Cavia aperea</i>	369.9937	No	Ebersperger & Blumstein 2006 BE
Brazilian Slender Opossum	<i>Marmosops paulensis</i>	803.7	No	Leiner & Wesley 2007 Act Therio
Brazilian Tuco-tuco	<i>Ctenomys brasiliensis</i>	1044.552	No	Lacey & Ebersperger 2007 Rodent Societies
Brenda's Colilargo	<i>Oligoryzomys brendae</i>	942.3355	No	Nowak 1999 Mammal Book
Bridges's Degu	<i>Octodon bridgesi</i>	613.487	No	Lacey & Ebersperger 2007 Rodent Societies

Bridled Nail-tail Wallaby	<i>Onychogalea fraenata</i>	254.0434	No	Fisher & Lara 1999
Broad-eared Free-tailed Bat	<i>Nyctinomops laticaudatus</i>	981.7787	No	Avila-Flores et al. 2002 Mamm Sp
Broad-footed Mole	<i>Scapanus latimanus</i>	490.6154	No	Nowak 1999 Mammal Book
Broad-headed Chiruromys	<i>Chiruromys lamia</i>	1456.649	No	Nowak 1999 Mammal Book
Broad-striped Tube-nosed Fruit Bat	<i>Nyctimene aello</i>	1464.98	No	Isaac et al. 2005
Brockman's Gerbil	<i>Gerbillus brockmani</i>	153.2808	No	Randall 2007 Rodent Societies Book
Broom Hare	<i>Lepus castroviejoi</i>	611.0485	No	Nowak 1999 Mammal Book
Brown Antechinus	<i>Antechinus stuartii</i>	870.4834	No	Braithwaite 1979 Aus J Zool
Brown Bear	<i>Ursus arctos</i>	450.5251	No	Dalerum 2007
Brown Four-eyed Opossum	<i>Metachirus nudicaudatus</i>	1369.116	No	Gentile & Cerqueira 1995 J Trop Ecol
Brown Greater Galago	<i>Otolemur crassicaudatus</i>	746.3667	No	Nowak 1999 Mammal Book
Brown Howler	<i>Alouatta guariba</i>	1056.783	No	Miranda et al. 2004 Neotropica
Brown Lemur	<i>Eulemur fulvus</i>	1326.457	No	Wimmer & Kappeler 2002
Brown Long-eared Bat	<i>Plecotus auritus</i>	357.1238	No	Burland et al. 1999
Brown Rat	<i>Rattus norvegicus</i>	1058.814	No	Nowak 1999 Mammal Book
Brown Spider Monkey	<i>Ateles hybridus</i>	1375.046	No	Nowak 1999 Mammal Book
Brown Titi	<i>Callicebus brunneus</i>	1342.209	pair bond	Kappeler 1999 Primate Communities Book
Brown Woolly Monkey	<i>Lagothrix lagotricha</i>	1192.475	No	di Fiore & Fleischer 2005 IJP
Brown Zygodont	<i>Zygodontomys brunneus</i>	1193.576	No	Voss et al. 1992 Lab Anim
Brown-mantled Tamarin	<i>Saguinus fuscicollis</i>	1289.591	pair bond	Porter 2001 Folia Primat
Brown-tailed Mongoose	<i>Salanoia concolor</i>	1456.702	No	Dalerum 2007
Brown-throated Sloth	<i>Bradypus variegatus</i>	929.4497	No	Rose & Gaudin 2010 Enc of Life Sciences
Brush Rabbit	<i>Sylvilagus bachmani</i>	179.3617	No	Nowak 1999 Mammal Book
Brush-tailed Hairy-footed Gerbil	<i>Gerbillurus vullinus</i>	83.24196	No	Randall 2007 Rodent Societies Book
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>	981.6402	No	Rhind 2003 J Zool
Bryant's Woodrat	<i>Neotoma bryanti</i>	1013.801	No	Nowak 1999 Mammal Book

Buchara Shrew	<i>Sorex buchariensis</i>	362.72	No	Murariu & Benedek 2005 Grig Antip
Bucharian Vole	<i>Blanfordimys bucharensis</i>	198.6945	No	Nowak 1999 Mammal Book
Budin's Tuco-tuco	<i>Ctenomys budini</i>	859.0583	No	Lacey & Ebensperger 2007 Rodent Societies
Buettikofer's Shrew	<i>Crocidura buettikoferi</i>	1153.536	No	Murariu & Benedek 2005 Grig Antip
Buff-bellied Brush-furred Rat	<i>Lophuromys luteogaster</i>	1364.462	No	Nowak 1999 Mammal Book
Buffy-headed Marmoset	<i>Callithrix flaviceps</i>	1051.726	pair bond	Fernandez-Duque et al. 2012
Buffy-tufted Marmoset	<i>Callithrix aurita</i>	1017.92	pair bond	Fernandez-Duque et al. 2012
Buller's Pocket Gopher.	<i>Pappogeomys bulleri</i>	863.2114	No	Lacey et al. 2000 Book Subterranean Rodents
Burmese Hare	<i>Lepus peguensis</i>	1041.271	No	Nowak 1999 Mammal Book
Burmese Short-tailed Shrew	<i>Blarinella wardi</i>	844.0247	No	Murariu & Benedek 2005 Grig Antip
Buru Babirusa	<i>Babyrousa babyrussa</i>	1501.959	No	Clayton & Macdonald 1999
Bush Dog	<i>Speothos venaticus</i>	773.8256	pair bond	Dalerum 2007
Bush Duiker	<i>Sylvicapra grimmia</i>	106.2068	No	Nowak 1999 Mammal Book
Bushbuck	<i>Tragelaphus scriptus</i>	928.6289	No	Nowak 1999 Mammal Book
Bushveld Elephant Shrew	<i>Elephantulus intufi</i>	158.6566	pair bond	Rathbun & Rathbun 2006 J Zool
Bushy-tailed Mongoose	<i>Bdeogale crassicauda</i>	1235.258	No	Taylor 1987
Bushy-tailed Woodrat	<i>Neotoma cinerea</i>	429.2	No	Smith 1997 Mamm Sp
Büttikofer's Epauletted Fruit Bat	<i>Epomops buettikoferi</i>	740.9	No	Isaac et al. 2005
Buxton's Jird	<i>Meriones sacramenti</i>	232.7267	No	Randall 2007 Rodent Societies Book
Cacomistle	<i>Bassariscus sumichrasti</i>	891.7571	No	Dalerum 2007
Cactus Deermouse	<i>Peromyscus eremicus</i>	185.6612	pair bond	Veal & Caire 1979 Mamm Sp
Calabar Angwantibo	<i>Arctocebus aureus</i>	1156	No	Nowak 1999 Mammal Book
California Chipmunk	<i>Tamias obscurus</i>	144.0819	No	Best & Granai 1994 Mammal Sp
California Deermouse	<i>Peromyscus californicus</i>	588.6515	Yes	Solomon & Getz 1997, Ribble 1991
California Ground Squirrel	<i>Spermophilus beecheyi</i>	523.3333	No	Waser & Jones 1983 Quart Rev Biol
California Kangaroo Rat	<i>Dipodomys californicus</i>	440.897	No	Jones 1985 J Mamm

Californian Myotis	<i>Myotis californicus</i>	308.7499	No	Nowak 1999 Mammal Book
Camas Pocket Gopher.	<i>Thomomys bulbivorus</i>	534.8372	No	Nowak 1999 Mammal Book
Cameroon clawless otter	<i>Aonyx congicus</i>	1291.55	No	Lariviere 2001
Cameroon Praomys	<i>Praomys morio</i>	1112.942	No	Nowak 1999 Mammal Book
Cameroonian Forest Shrew	<i>Sylvisorex camerunensis</i>	1017.74	No	Murariu & Benedek 2005 Grig Antip
Cameroonian Shrew	<i>Crocidura picea</i>	1087.899	No	Murariu & Benedek 2005 Grig Antip
Campbell's Desert Hamster	<i>Phodopus campbelli</i>	308.087	pair bond	Ross 1995 Mamm Sp
Campbell's Mona Monkey	<i>Cercopithecus campbelli</i>	1314.135	No	Nowak 1999 Mammal Book
Canadian Lynx	<i>Lynx canadensis</i>	605.5439	No	Dalerum 2007
Canarian Shrew	<i>Crocidura canariensis</i>	1000.4	No	Murariu & Benedek 2005 Grig Antip
Cantor's Leaf-nosed Bat	<i>Hipposideros galeritus</i>	844.9631	pair bond	Isaac et al. 2005
Canyon Deermouse	<i>Peromyscus crinitus</i>	77.2	No	Johnson & Armstrong 1987 Mamm Sp
Cape Dune Mole-rat	<i>Bathergus suillus</i>	402.4918	No	Nowak 1999 Mammal Book
Cape Elephant Shrew	<i>Elephantulus edwardii</i>	182.0621	pair bond	Rathbun & Rathbun 2006 J Zool
Cape Fox	<i>Vulpes chama</i>	237.587	pair bond	Munoz-Duran 2002 EER
Cape Genet	<i>Genetta tigrina</i>	404.2102	No	Dalerum 2007
Cape Gerbil	<i>Gerbilliscus afra</i>	221.8134	No	Randall 2007 Rodent Societies Book
Cape Gysbok	<i>Raphicerus melanotis</i>	588.3	No	Nowak 1999 Mammal Book
Cape Hare	<i>Lepus capensis</i>	87.27778	No	Nowak 1999 Mammal Book
Cape Mole-rat	<i>Georychus capensis</i>	478.5983	No	Nowak 1999 Mammal Book
Cape Porcupine	<i>Hystrix africaeaustralis</i>	395.6843	pair bond	van Aarde 1987 South African journal
Cape Short-tailed Gerbil	<i>Desmodillus auricularis</i>	459.5	No	Nowak 1999 Mammal Book
Cape Spiny Mouse	<i>Acomys subspinosus</i>	350.1394	No	Nowak 1999 Mammal Book
Capped Langur	<i>Trachypithecus pileatus</i>	1001.878	No	Kappeler 1999 Primate Communities Book
Caracal	<i>Caracal caracal</i>	72.46003	No	Dalerum 2007
Caribbean Spiny Pocket Mouse	<i>Heteromys anomalus</i>	1559.334	No	Rood & Test 1968 Am Mid Nat

Carmen Mountain Shrew	<i>Sorex milleri</i>	427.7638	No	Murariu & Benedek 2005 Grig Antip
Cascade Golden-mantled Ground Squirrel	<i>Spermophilus saturatus</i>	444.8616	No	Blumstein & Armitage 1999 Oikos
Caspian Shrew	<i>Crocidura caspica</i>	682.7248	No	Murariu & Benedek 2005 Grig Antip
Catamarca Tuco-tuco	<i>Ctenomys knighti</i>	508.848	No	Lacey & Ebensperger 2007 Rodent Societies
Caucasian Birch Mouse	<i>Sicista caucasica</i>	613.934	No	Nowak 1999 Mammal Book
Caucasian Pygmy Shrew	<i>Sorex volnuchini</i>	349.7818	No	Murariu & Benedek 2005 Grig Antip
Caucasian Shrew	<i>Sorex satunini</i>	610.376	No	Murariu & Benedek 2005 Grig Antip
Cave Myotis	<i>Myotis velifer</i>	546.7708	No	Fitch et al. 1981 Mamm Sp
Celebes Crested Macaque	<i>Macaca nigra</i>	1542.989	No	Nowak 1999 Mammal Book
Celebes Warty Pig	<i>Sus celebensis</i>	1431.525	No	Clayton & Macdonald 1999
Central American Agouti	<i>Dasyprocta punctata</i>	938.4288	pair bond	Nowak 1999 Mammal Book
Central American Least Shrew	<i>Cryptotis orophila</i>	1267.605	No	Murariu & Benedek 2005 Grig Antip
Central American Squirrel Monkey	<i>Saimiri oerstedii</i>	1337.426	No	Boinski et al. 2002 Behav
Central Australian Rock Rat	<i>Zyzomys pedunculatus</i>	94.28914	No	Nano et al. 2003 Wildl Res
Central Mexican Broad-clawed Shrew	<i>Cryptotis alticola</i>	1006.184	No	Murariu & Benedek 2005 Grig Antip
Central Texas Pocket Gopher.	<i>Geomys texensis</i>	568.2205	No	Nowak 1999 Mammal Book
Chacma Baboon	<i>Papio ursinus</i>	808.15	No	Nowak 1999 Mammal Book
Chacoan Collilargo	<i>Oligoryzomys chacoensis</i>	841.9624	No	Nowak 1999 Mammal Book
Chacoan Mara	<i>Dolichotis salinicola</i>	266.4994	No	Ebertsberger & Cofre 2001 BE
Chacoan Peccary	<i>Catagonus wagneri</i>	331.5986	No	Clayton & Macdonald 1999
Chacoan Tuco-tuco	<i>Ctenomys conoveri</i>	468.1313	No	Lacey & Ebensperger 2007 Rodent Societies
Champion's Pogonomys	<i>Pogonomys championi</i>	1148.913	No	Nowak 1999 Mammal Book
Checkered Elephant Shrew	<i>Rhynchocyon cirnei</i>	1171.9	pair bond	Rathbun & Rathbun 2006 J Zool
Cheesman's Gerbil	<i>Gerbillus cheesmani</i>	102.2992	No	Randall 2007 Rodent Societies Book
Cheng's Jird	<i>Meriones chengi</i>	147.1516	No	Randall 2007 Rodent Societies Book
Cherrie's Pocket Gopher.	<i>Orthogeomys cherriei</i>	1394.163	No	Lacey et al. 2000 Book Subterranean Rodents

Chestnut Pogonomys	<i>Pogonomys macrourus</i>	1406.307	No	Nowak 1999 Mammal Book
Chestnut Sac-winged Bat	<i>Cormura brevirostris</i>	650	No	Bernard 2003 Mamm Sp
Chestnut-bellied Titi	<i>Callicebus caligatus</i>	1362.191	pair bond	Kappeler 1999 Primate Communities Book
Chihuahuan Pocket Mouse	<i>Chaetodipus eremicus</i>	196.8526	No	Mantooth & Best 2005 Mamm Sp
Chilean Rock Rat	<i>Aconaemys fuscus</i>	645.933	No	Lacey & Ebensperger 2007 Rodent Societies
Chinese Bamboo Rat	<i>Rhizomys sinensis</i>	975.8359	No	Lacey et al. 2000 Subterranean Rodent book
Chinese Birch Mouse	<i>Sicista concolor</i>	455.6818	No	Nowak 1999 Mammal Book
Chinese Hare	<i>Lepus sinensis</i>	1050.148	No	Nowak 1999 Mammal Book
Chinese Highland Shrew	<i>Sorex excelsus</i>	486.2	No	Murariu & Benedek 2005 Grig Antip
Chinese Jumping Mouse	<i>Eozapus setchuanus</i>	457.7881	No	Quere et al. 2009 Mamm Biol
Chinese Mole Shrew	<i>Anourosorex squamipes</i>	870.842	No	Murariu & Benedek 2005 Grig Antip
Chinese Pangolin	<i>Manis pentadactyla</i>	1276.5	No	Wilson 1994 Int Zool Yb
Chinese Red Pika	<i>Ochotona erythrotis</i>	185.1843	No	Smith 2008 book chapter
Chinese Serow	<i>Capricornis milneedwardsii</i>	1179.136	No	Nowak 1999 Mammal Book
Chinese Shrew	<i>Sorex sinalis</i>	789.5625	No	Murariu & Benedek 2005 Grig Antip
Chinese Water Deer	<i>Hydropotes inermis</i>	665.643	No	Nowak 1999 Mammal Book
Chinese Water Shrew	<i>Chimarrogale styani</i>	560.4372	No	Murariu & Benedek 2005 Grig Antip
Chinese White-toothed Shrew	<i>Crocidura rapax</i>	1327.298	No	Murariu & Benedek 2005 Grig Antip
Chiriqui Pocket Gopher.	<i>Orthogeomys cavator</i>	1307.104	No	Goldman 1939 J Mamm
Chiru	<i>Pantholops hodgsonii</i>	295.1248	No	Leslie & Schaller 2008 Mamm Sp
Chisel-toothed Kangaroo Rat	<i>Dipodomys microps</i>	176.8233	No	Behrends et al. 1986 Behav
Chital	<i>Axis axis</i>	759.0293	No	Nowak 1999 Mammal Book
Christmas Island Shrew	<i>Crocidura trichura</i>	1594.471	No	Murariu & Benedek 2005 Grig Antip
Cinderella Shrew	<i>Crocidura cinderella</i>	64.23329	No	Murariu & Benedek 2005 Grig Antip
Cinereus Shrew	<i>Sorex cinereus</i>	491.2451	No	Murariu & Benedek 2005 Grig Antip
Ciscaucasian Hamster	<i>Mesocricetus raddei</i>	429.538	No	Nowak 1999 Mammal Book

Clear-winged Woolly Bat	<i>Kerivoula pellucida</i>	1372.726	No	Rossiter et al. 2012
Cliff Chipmunk	<i>Tamias dorsalis</i>	207.1925	No	Hart 1992 Mammal Sp
Climbing Shrew	<i>Suncus megalura</i>	869.1542	No	Murariu & Benedek 2005 Grig Antip
Clouded Leopard	<i>Neofelis nebulosa</i>	1322.281	No	Munoz-Duran 2002 EER
Coast Mole	<i>Scapanus orarius</i>	577.7311	No	Nowak 1999 Mammal Book
Coastal Black-handed Titi	<i>Callicebus melanochir</i>	1164.041	pair bond	Kappeler 1999 Primate Communities Book
Cockrum's Gray Shrew	<i>Notiosorex cockrumi</i>	166.2263	No	Murariu & Benedek 2005 Grig Antip
Coimbra Filho's Titi	<i>Callicebus coimbrai</i>	1019.887	pair bond	Kappeler 1999 Primate Communities Book
Colburn's Tuco-tuco	<i>Ctenomys colburni</i>	459.396	No	Lacey & Ebensperger 2007 Rodent Societies
Collared Mangabey	<i>Cercocebus torquatus</i>	1090.85	No	Nowak 1999 Mammal Book
Collared Peccary	<i>Pecari tajacu</i>	675.9333	No	Clayton & Macdonald 1999
Collared Pika	<i>Ochotona collaris</i>	438.5695	No	Nowak 1999 Mammal Book
Collared Titi	<i>Callicebus torquatus</i>	1349.455	pair bond	Kinzey & Wright 1982 AJP
Collared Tuco-tuco	<i>Ctenomys torquatus</i>	650.9947	No	Lacey & Ebensperger 2007 Rodent Societies
Colocolo	<i>Leopardus colocolo</i>	296.1643	No	Munoz-Duran 2002 EER
Colombian Black-handed Titi	<i>Callicebus medemi</i>	1396.546	pair bond	Kappeler 1999 Primate Communities Book
Colombian Small-eared Shrew	<i>Cryptotis colombiana</i>	1210.866	No	Murariu & Benedek 2005 Grig Antip
Colombian Woolly Monkey	<i>Lagothrix lugens</i>	1238.437	No	di Fiore & Fleischer 2005 IJP
Colonial Tuco-tuco	<i>Ctenomys sociabilis</i>	505.4095	No	Lacey & Ebensperger 2007 Rodent Societies
Columbian Ground Squirrel	<i>Spermophilus columbianus</i>	385.2088	No	Blumstein & Armitage 1999 Oikos
Comb-toed Jerboa	<i>Paradipus ctenodactylus</i>	116.2555	No	Randall 2007 Rodent societies book
Commerson's Leaf-nosed Bat	<i>Hipposideros commersoni</i>	630.1853	No	Vaughan 1977
Common African Fat Mouse	<i>Steatomys pratensis</i>	1556.6	No	Nowak 1999 Mammal Book
Common Australian Rock Rat	<i>Zyomys argurus</i>	728.6025	No	Trainor et al. 2000 Wildl Res
Common Chimpanzee	<i>Pan troglodytes</i>	901.2638	No	Nowak 1999 Mammal Book
Common Dwarf Mongoose	<i>Helogale parvula</i>	527.8767	pair bond	Dalerum 2007

Common Echymipera	Echymipera kalubi	1252.746	No	Anderson et al. 1988 J Mamm
Common Genet	Genetta genetta	385.5232	No	Dalerum 2007
Common Gundi	Ctenodactylus gundi	81.5049	No	Nutt 2005 J Mamm
Common Hamster	Cricetus cricetus	157.5365	No	Nowak 1999 Mammal Book
Common Hippopotamus	Hippopotamus amphibius	1092.925	No	Wengstroem 2009 Thesis
Common Kusimanse	Crossarchus obscurus	1141.32	pair bond	Dalerum 2007
Common Marmoset	Callithrix jacchus	1321.386	Yes	Fernandez-Duque 2012/Nievergelt 2000
Common Muskrat	Ondatra zibethicus	506.45	pair bond	Nowak 1999 Mammal Book
Common Pericote	Graomys griseoflavus	201.4839	No	Theiler & Blanco 1995 J Exp Zool
Common Pipistrelle	Pipistrellus pipistrellus	863.6714	No	Isaac et al. 2005
Common Punaré	Thrichomys apereoides	704.62	No	dos Reis & Pessoa 2004 Mamm Sp
Common Reedbuck	Redunca redunca	117.9568	pair bond	Waser & Jones 1983 Quart Rev Biol
Common Ringtail	Pseudocheirus peregrinus	718.8401	No	Nowak 1999 Mammal Book
Common Serotine	Eptesicus serotinus	106.2749	No	Catto et al. 1996
Common Shrew	Sorex araneus	384.2564	No	Murariu & Benedek 2005 Grig Antip
Common Squirrel Monkey	Saimiri sciureus	1310.185	No	Boinski et al. 2002 Behav
Common Tent-making Bat	Uroderma bilobatum	815.5706	No	Isaac et al. 2005
Common Treeshrew	Tupaia glis	1408.206	No	Kawamichi & Kawamichi 1982 Primates
Common Tsessebe	Damaliscus lunatus	499.4348	No	Bro-Jorgensen 2003 Anim Behav
Common Tube-nosed Fruit Bat	Nyctimene albiventer	1485.724	No	Isaac et al. 2005
Common Vampire Bat	Desmodus rotundus	538.7072	No	Wilkinson 1985 BES
Common Vole	Microtus arvalis	500.0451	No	Solomon & Getz 1997 book chapter
Common Wart-hog	Phacochoerus africanus	143	No	Muwanika et al. 2007 Afr J Ecol
Common Yellow-toothed Cavy	Galea musteloides	152.9691	No	Asher et al. 2008 BES
Congo Forest Rat	Deomys ferrugineus	872.3626	No	Nowak 1999 Mammal Book
Congo Tateril	Taterillus congicus	273.7707	No	Nowak 1999 Mammal Book

Congo White-toothed Shrew	<i>Crocidura congobelgica</i>	1335.564	No	Murariu & Benedek 2005 Grig Antip
Cook's Hociudo	<i>Oxymycterus josei</i>	657.1906	No	Nowak 1999 Mammal Book
Coppery Titi	<i>Callicebus cupreus</i>	1387.968	pair bond	Kappeler 1999 Primate Communities Book
Coquerel's Sifaka	<i>Propithecus coquereli</i>	767.6441	No	Richard 1974 Folia Primat
Córdoba Laucha	<i>Calomys venustus</i>	432.4397	No	Priotto et al. 2002 Mamm Biol
Corsac Fox	<i>Vulpes corsac</i>	416.8035	No	Munoz-Duran 2002 EER
Corsican Hare	<i>Lepus corsicanus</i>	510.4	No	Nowak 1999 Mammal Book
Coruro	<i>Spalacopus cyanus</i>	360.7515	No	Lacey & Ebensperger 2007 Rodent Societies
Cotton Deermouse	<i>Peromyscus gossypinus</i>	825.8585	No	Wolfe & Linzey 1977 Mamm Sp
Cottontop Tamarin	<i>Saguinus oedipus</i>	804.9	pair bond	Porter 2001 Folia Primat
Coues' Oryzomys	<i>Oryzomys couesi</i>	1050.183	No	Nowak 1999 Mammal Book
Cougar	<i>Puma concolor</i>	495.575	No	Dalerum 2007
Cowan's Shrew Tenrec	<i>Microgale cowani</i>	996.5444	No	Stephenson et al. 1994 Int Zoo Yb
Coyhaique Tuco-tuco	<i>Ctenomys coyhaiquensis</i>	501.432	No	Lacey & Ebensperger 2007 Rodent Societies
Coyote	<i>Canis latrans</i>	335.5777	Yes	Dalerum 2007/Hennessy 2012
Coypu	<i>Myocastor coypus</i>	437.0571	No	Woods et al. 1992 Mamm Sp
Cozumel Harvest Mouse	<i>Reithrodontomys spectabilis</i>	1418.104	No	Nowak 1999 Mammal Book
Crab-eating Fox	<i>Cerdocyon thous</i>	341.3875	pair bond	Dalerum 2007
Crab-eating Macaque	<i>Macaca fascicularis</i>	1423.331	No	Nowak 1999 Mammal Book
Crab-eating Mongoose	<i>Herpestes urva</i>	893.7611	No	Dalerum 2007
Crawford's Gray Shrew	<i>Notiosorex crawfordi</i>	359.2944	No	Murariu & Benedek 2005 Grig Antip
Creeping Vole	<i>Microtus oregoni</i>	611.7643	No	Carraway & Verts 1985
Crested Mona Monkey	<i>Cercopithecus pogonias</i>	1079.507	No	Gautier-Hion 1980 J Anim Ecol
Crested Porcupine	<i>Hystrix cristata</i>	822.1309	pair bond	Santini 1980 conference proceedings
Cretan Shrew	<i>Crocidura zimmermanni</i>	281.9727	No	Murariu & Benedek 2005 Grig Antip
Crete Spiny Mouse	<i>Acomys minous</i>	402.0311	No	Nowak 1999 Mammal Book

Crosse's Shrew	<i>Crocidura crossei</i>	1150.9	No	Murariu & Benedek 2005 Grig Antip
Crossley's Dwarf Lemur	<i>Cheirogaleus crossleyi</i>	1466.935	pair bond	Lahann IJP 2008
Crowned Lemur	<i>Eulemur coronatus</i>	1088.585	No	Digby & Kahlenberg 2002 Primates
Cyprus Spiny Mouse	<i>Acomys nesioties</i>	286.5545	No	Nowak 1999 Mammal Book
Cyrenaica Shrew	<i>Crocidura aleksandrisi</i>	246.7662	No	Murariu & Benedek 2005 Grig Antip
D'Entrecasteaux Archipelago Pogonomys	<i>Pogonomys fergussoniensis</i>	1460.077	No	Nowak 1999 Mammal Book
D'Orbigny's Tuco-tuco	<i>Ctenomys dorbignyi</i>	519.4222	No	Lacey & Ebensperger 2007 Rodent Societies
Dahl's Jird	<i>Meriones dahl</i>	316.7342	No	Randall 2007 Rodent Societies Book
Dainty African Fat Mouse	<i>Steatomys cuppedius</i>	45.23746	No	Nowak 1999 Mammal Book
Dall's Sheep	<i>Ovis dalli</i>	347.5464	No	Nowak 1999 Mammal Book
Dalton's Praomys	<i>Praomys daltoni</i>	416.1	No	Nowak 1999 Mammal Book
Damara Ground Squirrel	<i>Xerus princeps</i>	227.4362	No	Waterman & Herron 2004 Mammal Sp
Darfur Gerbil	<i>Gerbillus muriculus</i>	31.58456	No	Randall 2007 Rodent Societies Book
Darien Harvest Mouse	<i>Reithrodontomys darienensis</i>	1191.088	No	Nowak 1999 Mammal Book
Darien Pocket Gopher.	<i>Orthogeomys dariensis</i>	1206.436	No	Goldman 1939 J Mamm
Darién Small-eared Shrew	<i>Cryptotis mera</i>	1153.99	No	Murariu & Benedek 2005 Grig Antip
Dark Kangaroo Mouse	<i>Microdipodops megacephalus</i>	216.361	No	Farrell 1978 J Mamm
Dark Spiny Tree-rat	<i>Echimys saturnus</i>	1397.543	No	Nowak 1999 Mammal Book
Dark-caped Atlantic Spiny-rat	<i>Trinomys mirapitanga</i>	1327.79	No	Attias et al. 2009 Zoologia
Dark-footed Mouse Shrew	<i>Myosorex cafer</i>	734.6409	No	Murariu & Benedek 2005 Grig Antip
Darwin's Pericote	<i>Phyllotis darwini</i>	79.30249	No	Nowak 1999 Mammal Book
Dassie Rat	<i>Petromus typicus</i>	156.2319	pair bond	Rathbun & Rathbun 2006 Mamm Biol
Daubenton's Myotis	<i>Myotis daubentonii</i>	387.4	No	Nowak 1999 Mammal Book
Daurian Pika	<i>Ochotona dauurica</i>	250.707	No	Zhong et al. 2008 J Arid Env
Day's Shrew	<i>Suncus dayi</i>	1596.733	No	Murariu & Benedek 2005 Grig Antip
De Brazza's Monkey	<i>Cercopithecus neglectus</i>	1123.3	No	Nowak 1999 Mammal Book

De Graaff's Praomys	<i>Praomys degraaffi</i>	796.267	No	Nowak 1999 Mammal Book
De Winton's Shrew	<i>Chodsigoa hypsibia</i>	420.7444	No	Murariu & Benedek 2005 Grig Antip
Degu	<i>Octodon degus</i>	546.3	No	Lacey & Ebensperger 2007 Rodent Societies
Delacour's Langur	<i>Trachypithecus delacouri</i>	923.8108	No	Kappeler 1999 Primate Communities Book
Dent's Shrew	<i>Crocidura denti</i>	1010.247	No	Murariu & Benedek 2005 Grig Antip
Deppe's Squirrel	<i>Sciurus deppei</i>	1164.329	No	Best 1995
Deroo's Praomys	<i>Praomys derooi</i>	826.0434	No	Nyakaana et al. 2008 So Afr Sci
Desert Cottontail	<i>Sylvilagus audubonii</i>	437.3	No	Nowak 1999 Mammal Book
Desert Hare.	<i>Lepus tibetanus</i>	413.0456	No	Nowak 1999 Mammal Book
Desert Hedgehog	<i>Paraechinus aethiopicus</i>	277.1602	No	Nowak 1999 Mammal Book
Desert Kangaroo Rat	<i>Dipodomys deserti</i>	81.56923	No	Randall 2007 Int comp Biol
Desert Musk Shrew	<i>Crocidura smithii</i>	315.1977	No	Murariu & Benedek 2005 Grig Antip
Desert Pocket Gopher.	<i>Geomys arenarius</i>	133.6083	No	Nowak 1999 Mammal Book
Desert Pocket Mouse	<i>Chaetodipus penicillatus</i>	110.9688	No	Mantooth & Best 2005 Mamm Sp
Desert Pseudomys	<i>Pseudomys desertor</i>	324.25	No	Anstee et al. 1997 Wildl Res
Desert Warthog	<i>Phacochoerus aethiopicus</i>	495.0363	No	Clayton & Macdonald 1999
Desert Woodrat	<i>Neotoma lepida</i>	269.7	No	Nowak 1999 Mammal Book
Desmarest's Hutia	<i>Capromys pilorides</i>	1034.395	No	Witmer 2002 conference proceedings
Desmarest's Spiny Pocket Mouse	<i>Heteromys desmarestianus</i>	1162.444	No	Fleming 1974 J Mamm
Desperate Shrew	<i>Crocidura desperata</i>	886.7645	No	Murariu & Benedek 2005 Grig Antip
Dhole	<i>Cuon alpinus</i>	713.5095	pair bond	Dalerum 2007
Diademed Sifaka	<i>Propithecus diadema</i>	1142.783	No	Pochron et al. 2004
Dian's Tarsier	<i>Tarsius dentatus</i>	1296.65	No	Nowak 1999 Mammal Book
Diana Monkey	<i>Cercopithecus diana</i>	1309.384	No	Nowak 1999 Mammal Book
Dibatag	<i>Ammodorcas clarkei</i>	277.5063	No	Nowak 1999 Mammal Book
Dice's Cottontail	<i>Sylvilagus dicei</i>	1311.2	No	Nowak 1999 Mammal Book

Dobson's Shrew Tenrec	<i>Microgale dobsoni</i>	981.4377	No	Stephenson et al. 1994 Int Zoo Yb
Dorcas Gazelle	<i>Gazella dorcas</i>	32.31821	No	Lawes & Nanni 1993 J Arid Env
Doucet's Musk Shrew	<i>Crocidura douceti</i>	1246.541	No	Murariu & Benedek 2005 Grig Antip
Douglas's Squirrel	<i>Tamiasciurus douglasii</i>	451.1278	No	Steele 1999
Drill	<i>Mandrillus leucophaeus</i>	1188.75	No	Nowak 1999 Mammal Book
Dryas Monkey	<i>Cercopithecus dryas</i>	1096.811	No	Nowak 1999 Mammal Book
Drylands Laucha	<i>Calomys musculinus</i>	317.2754	No	Laconi & Castro-Vazquez 1999 Mammalia
Dsinezumi Shrew	<i>Crocidura dsinezumi</i>	817.9844	No	Murariu & Benedek 2005 Grig Antip
Dulzura Kangaroo Rat	<i>Dipodomys simulans</i>	142.9058	No	Jones 1985 J Mamm
Dune Hairy-footed Gerbil	<i>Gerbillus tytonis</i>	52.76854	No	Randall 2007 Rodent Societies Book
Dunn's Gerbil	<i>Gerbillus dunnii</i>	265.9689	No	Randall 2007 Rodent Societies Book
Dusky Antechinus	<i>Antechinus swainsonii</i>	664.5827	No	Sanecki et al. 2006 Wild Res
Dusky Bushbaby	<i>Galago matschiei</i>	1159.233	No	Bearder et al. 2003 Folia Primat
Dusky Elephant Shrew	<i>Elephantulus fuscus</i>	847.3892	pair bond	Rathbun & Rathbun 2006 J Zool
Dusky Leaf-monkey	<i>Trachypithecus obscurus</i>	1453.773	No	Kappeler 1999 Primate Communities Book
Dusky Shrew	<i>Sorex monticolus</i>	343.0769	No	Murariu & Benedek 2005 Grig Antip
Dusky-footed Elephant Shrew	<i>Elephantulus fuscipes</i>	819.7666	pair bond	Rathbun & Rathbun 2006 J Zool
Dusky-footed Woodrat	<i>Neotoma fuscipes</i>	495.1857	No	Nowak 1999 Mammal Book
Dwarf Bonneted Bat	<i>Eumops bonariensis</i>	503.9578	No	Hunt et al. 2003 Mamm Sp
Dwarf Fat-tailed Jerboa	<i>Pygeretmus pumilio</i>	209.7939	No	Heske et al. 1995 J Mamm
Dwarf Shrew	<i>Sorex nanus</i>	388.6632	No	Murariu & Benedek 2005 Grig Antip
Dwarf Slit-faced Bat	<i>Nycteris nana</i>	1085.592	pair bond	Isaac et al. 2005
East African Arvicanthis	<i>Arvicanthis nairobae</i>	652.6663	No	Nowak 1999 Mammal Book
East African Highland Shrew	<i>Crocidura allei</i>	989.2768	No	Murariu & Benedek 2005 Grig Antip
East African Pouched Mouse	<i>Saccostomus mearnsi</i>	874.9385	No	Nowak 1999 Mammal Book
East African Praomys	<i>Praomys delectorum</i>	908.4259	No	Makundi et al. 2007 Afr J Ecol

Eastern Barred Bandicoot	<i>Perameles gunnii</i>	386.8706	No	Seebeck 2001 Mamm Sp
Eastern Bettong	<i>Bettongia gaimardi</i>	719.6981	No	Rose & Rose Mamm Sp
Eastern Chipmunk	<i>Tamias striatus</i>	544.4923	No	Waser & Jones 1983 Quart Rev Biol
Eastern Cordillera Small-footed Shrew	<i>Cryptotis brachyonyx</i>	1160.702	No	Murariu & Benedek 2005 Grig Antip
Eastern Cottontail	<i>Sylvilagus floridanus</i>	610.4942	No	Nowak 1999 Mammal Book
Eastern Forest Bat	<i>Vespadelus pumilus</i>	559.9578	No	Law 2000
Eastern Fox Squirrel	<i>Sciurus niger</i>	917.2	No	Koprowski 1994
Eastern Gorilla	<i>Gorilla beringei</i>	1308.747	No	Nowak 1999 Mammal Book
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	778.4742	No	Koprowski 1994
Eastern Grey Kangaroo	<i>Macropus giganteus</i>	541.8329	No	Poole 1982 Mamm Sp
Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>	842.6017	No	Nowak 1999 Mammal Book
Eastern Heather Vole	<i>Phenacomys ungava</i>	294.606	No	Nowak 1999 Mammal Book
Eastern Mole	<i>Scalopus aquaticus</i>	793.6528	No	Kamm et al. 2008 NorthEastern Naturalist
Eastern Mole Vole	<i>Ellobius tancrei</i>	185.4492	pair bond	Nowak 1999 Mammal Book
Eastern Pipistrelle	<i>Pipistrellus subflavus</i>	825.7535	No	Fujita & Kunz 1984
Eastern Puna Mouse	<i>Punomys kofordi</i>	1058.237	No	Nowak 1999 Mammal Book
Eastern Quoll	<i>Dasyurus viverrinus</i>	672.8796	No	Jones & Rose 2001 Mamm Sp
Eastern Red Bat	<i>Lasiurus borealis</i>	1248.741	No	Shump & Shump 1982 Mamm Sp
Eastern Rock Elephant Shrew	<i>Elephantulus myurus</i>	309.3787	pair bond	Rathbun & Rathbun 2006 J Zool
Eastern Rufous Mouse Lemur	<i>Microcebus rufus</i>	1237.267	No	Randrianambinina et al. 2003 Primates
Eastern Spiny Mouse	<i>Acomys dimidiatus</i>	120.5885	No	Nowak 1999 Mammal Book
Eastern Spotted Skunk	<i>Spilogale putorius</i>	726.9667	No	Dalerum 2007
Eastern Woodrat	<i>Neotoma floridana</i>	806.7327	No	Nowak 1999 Mammal Book
Eastern Woolly Lemur	<i>Avahi laniger</i>	1308.386	pair bond	Nowak 1999 Mammal Book
Ebony Akodont	<i>Thaptomys nigrita</i>	823.2389	No	Puettker PhD Thesis
Ecuadorean Small-eared Shrew	<i>Cryptotis equatoris</i>	968.831	No	Murariu & Benedek 2005 Grig Antip

Ecuadorian Cotton Rat	<i>Sigmodon inopinatus</i>	1025.467	No	Nowak 1999 Mammal Book
Egyptian Mongoose	<i>Herpestes ichneumon</i>	197.7808	No	Dalerum 2007
Egyptian Pygmy Shrew	<i>Crocidura religiosa</i>	133.9	No	Murariu & Benedek 2005 Grig Antip
Egyptian Rousette	<i>Rousettus aegyptiacus</i>	101.1556	No	Isaac et al. 2005
Eisenraut's Mouse Shrew	<i>Myosorex eisenrauti</i>	1177.49	No	Murariu & Benedek 2005 Grig Antip
Eisenraut's Shrew	<i>Crocidura eisenrauti</i>	1177.73	No	Murariu & Benedek 2005 Grig Antip
Elegant Fat-tailed Mouse Opossum	<i>Thylamys elegans</i>	604.75	No	Palma 1997 Mamm Sp
Elegant Water Shrew	<i>Nectogale elegans</i>	456.2958	No	Murariu & Benedek 2005 Grig Antip
Elgon Shrew	<i>Crocidura elgonius</i>	978.633	No	Murariu & Benedek 2005 Grig Antip
Elias' Atlantic Spiny-rat	<i>Trinomys eliasi</i>	1114.596	No	Brito & Figueiredo 2002 Biol Cons
Ellerman's Tufted-tailed Rat	<i>Eliurus ellermani</i>	1381.791	No	Nowak 1999 Mammal Book
Elliot's Short-tailed Shrew	<i>Blarina hylophaga</i>	451.8036	No	Murariu & Benedek 2005 Grig Antip
Elongated Shrew	<i>Crocidura elongata</i>	1501.15	No	Murariu & Benedek 2005 Grig Antip
Emin's Tateril	<i>Taterillus emini</i>	35.35969	No	Nowak 1999 Mammal Book
Emperor Tamarin	<i>Saguinus imperator</i>	1361.631	pair bond	Porter 2001 Folia Primat
Enders' Small-eared Shrew	<i>Cryptotis endersi</i>	1174.556	No	Murariu & Benedek 2005 Grig Antip
Equatorial Saki	<i>Pithecia aequatorialis</i>	1433.615	pair bond	Norconk 2007 book chapter
Ethiopian African Mole Rat	<i>Tachyoryctes macrocephalus</i>	987.5927	No	Lacey et al. 2000 Subterranean Rodent book
Ethiopian Arvicanthis	<i>Arvicanthis abyssinicus</i>	521.9108	No	Nowak 1999 Mammal Book
Ethiopian Buff-spotted Brush-furred Rat	<i>Lophuromys flavopunctatus</i>	810.5592	No	Nowak 1999 Mammal Book
Ethiopian Dwarf Mongoose	<i>Helogale hirtula</i>	281.3568	pair bond	Dalerum 2007
Ethiopian Forest Brush-furred Rat	<i>Lophuromys chrysopus</i>	1201.25	No	Nowak 1999 Mammal Book
Ethiopian Hare	<i>Lepus fagani</i>	809.8918	No	Nowak 1999 Mammal Book
Ethiopian Highland Hare	<i>Lepus starcki</i>	538.8754	No	Nowak 1999 Mammal Book
Ethiopian Wolf	<i>Canis simensis</i>	1120.355	pair bond	Dalerum 2007
Etruscan Shrew	<i>Suncus etruscus</i>	501.6776	pair bond	Murariu & Benedek 2005 Grig Antip

Euphrates Jerboa	<i>Allactaga euphratica</i>	113.6944	No	Scott & Dunstone 2000 J Zool
Eurasian Beaver	<i>Castor fiber</i>	423.1242	Yes	Campbell et al. 2005/ Jürgens, 2009
Eurasian Elk	<i>Alces alces</i>	393.4228	No	Waser & Jones 1983 Quart Rev Biol
Eurasian Least Shrew	<i>Sorex minutissimus</i>	335.8667	No	Murariu & Benedek 2005 Grig Antip
Eurasian Pygmy Shrew	<i>Sorex minutus</i>	417.5667	No	Murariu & Benedek 2005 Grig Antip
Eurasian Water Shrew	<i>Neomys fodiens</i>	446.64	No	Murariu & Benedek 2005 Grig Antip
Eurasian Water Vole	<i>Arvicola amphibius</i>	363.2894	No	Nowak 1999 Mammal Book
European Badger	<i>Meles meles</i>	583.4067	No	Dalerum 2007
European Bison	<i>Bison bonasus</i>	483.7686	No	Nowak 1999 Mammal Book
European Hare	<i>Lepus europaeus</i>	577.5842	No	Nowak 1999 Mammal Book
European Mink	<i>Mustela lutreola</i>	393.5855	No	Dalerum 2007
European Mole	<i>Talpa europaea</i>	471.1	No	Nowak 1999 Mammal Book
European Otter	<i>Lutra lutra</i>	412.2738	No	Dalerum 2007
European Pine Marten	<i>Martes martes</i>	480.3311	No	Dalerum 2007
European Polecat	<i>Mustela putorius</i>	417.3692	No	Dalerum 2007
European Rabbit	<i>Oryctolagus cuniculus</i>	528.6615	No	Cowen 1987
European Roe	<i>Capreolus capreolus</i>	412.7331	No	Nowak 1999 Mammal Book
European Snow Vole	<i>Chionomys nivalis</i>	424.079	No	Janeau & Aulagnier 1997 J Mount Ecol
Evening Bat	<i>Nycticeius humeralis</i>	698.2952	No	Wilkinson 1992
Fallow Deer	<i>Dama dama</i>	592.9477	No	Nowak 1999 Mammal Book
False Water Rat	<i>Xeromys myoides</i>	705.665	No	Magnusson et al. 1976 Aust Wildl Res
Famatina Tuco-tuco	<i>Ctenomys famosus</i>	165.7333	No	Lacey & Ebensperger 2007 Rodent Societies
Fat Sand Rat	<i>Psammomys obesus</i>	257.4	No	Randall 2007 Rodent Societies Book
Fat-tailed Dunnart	<i>Sminthopsis crassicaudata</i>	303.3	No	Read 1984 Wild Res
Fea's Muntjac	<i>Muntiacus feae</i>	1200.568	No	Nowak 1999 Mammal Book
Feather-tailed Glider	<i>Acrobates pygmaeus</i>	565.2159	No	Lindenmayer 1997 J Mamm

Fennec Fox	<i>Vulpes zerda</i>	38.6508	No	Dalerum 2007
Field Vole	<i>Microtus agrestis</i>	388.9478	No	Nowak 1999 Mammal Book
Fiery Spiny Mouse	<i>Acomys ignitus</i>	651.1367	No	Nowak 1999 Mammal Book
Fire-bellied Brush-furred Rat	<i>Lophuromys nudicaudus</i>	1101.163	No	Nowak 1999 Mammal Book
Fire-footed Rope Squirrel	<i>Funisciurus pyrropus</i>	959.282	No	Emmons 1980
Fischer's Shrew	<i>Crocidura fischeri</i>	488.1474	No	Murariu & Benedek 2005 Grig Antip
Fisher	<i>Martes pennanti</i>	574.375	No	Dalerum 2007
Fishing Cat	<i>Prionailurus viverrinus</i>	1076.448	No	Grassman 2005
Five-toed Pygmy Jerboa	<i>Cardiocranius paradoxus</i>	200.8287	No	Randall 2007 Rodent societies book
Flamarion's Tuco-tuco	<i>Ctenomys flamarioni</i>	837.1321	No	Lacey & Ebensperger 2007 Rodent Societies
Flat-headed African Dormouse	<i>Graphiurus platyops</i>	441.6206	No	Webb & Skinner 1996
Flat-headed Shrew	<i>Crocidura planiceps</i>	294.1121	No	Murariu & Benedek 2005 Grig Antip
Flat-skulled Shrew	<i>Sorex roboratus</i>	366.1933	No	Murariu & Benedek 2005 Grig Antip
Flavescent Collilargo	<i>Oligoryzomys flavescens</i>	365.4231	No	Nowak 1999 Mammal Book
Flores Shrew	<i>Suncus mertensi</i>	1535.58	No	Murariu & Benedek 2005 Grig Antip
Flower's Gerbil	<i>Gerbillus floweri</i>	100.086	No	Randall 2007 Rodent Societies Book
Flower's Shrew	<i>Crocidura floweri</i>	487.5972	No	Murariu & Benedek 2005 Grig Antip
Foch's Tuco-tuco	<i>Ctenomys fochi</i>	435.5682	No	Lacey & Ebensperger 2007 Rodent Societies
Fog Shrew	<i>Sorex sonomae</i>	433.3191	No	Murariu & Benedek 2005 Grig Antip
Forbes's Chiruromys	<i>Chiruromys forbesi</i>	1463.604	No	Nowak 1999 Mammal Book
Forest African Dormouse	<i>Graphiurus murinus</i>	1180.32	No	Kleiman 1977
Forest Dormouse	<i>Dryomys nitedula</i>	416.779	No	Nevo & Amir 1964 J Mamm
Forest Giant Pouched Rat	<i>Cricetomys emini</i>	794.9875	No	Nowak 1999 Mammal Book
Forest Giant Squirrel	<i>Protoxerus stangeri</i>	1009.207	No	Emmons 1980
Forest Musk Deer	<i>Moschus berezovskii</i>	777.2171	No	Nowak 1999 Mammal Book
Forest Shrew	<i>Myosorex varius</i>	417.1323	No	Murariu & Benedek 2005 Grig Antip

Forest Tuco-tuco	<i>Ctenomys sylvanus</i>	646.6984	No	Lacey & Ebensperger 2007 Rodent Societies
Formosan Rock Macaque	<i>Macaca cyclopis</i>	864.9	No	Nowak 1999 Mammal Book
Formosan Serow	<i>Capricornis swinhoei</i>	1175.093	No	Nowak 1999 Mammal Book
Fornes' Colilargo	<i>Oligoryzomys fornesi</i>	693.4587	No	Nowak 1999 Mammal Book
Fossa	<i>Cryptoprocta ferox</i>	902.7814	No	Köhncke & Leonhardt 1986
Four-horned Antelope.	<i>Tetracerus quadricornis</i>	410.1395	No	Nowak 1999 Mammal Book
Four-toed Elephant Shrew	<i>Petrodromus tetradactylus</i>	781.9788	No	Jennings & Rathbun 2001 Mamm Sp
Four-toed Hedgehog	<i>Atelerix albiventris</i>	521.5	No	Nowak 1999 Mammal Book
Four-toed Jerboa	<i>Allactaga tetradactyla</i>	211.32	No	Randall 2007 Rodent societies book
Fox's Shrew	<i>Crocidura foxi</i>	409.6556	No	Murariu & Benedek 2005 Grig Antip
François' Langur	<i>Trachypithecus francoisi</i>	932.5438	No	Kappeler 1999 Primate Communities Book
Franquet's Epauletted Fruit Bat	<i>Epomops franqueti</i>	1061.182	No	Isaac et al. 2005
Fraser's Musk Shrew	<i>Crocidura poensis</i>	1195.7	No	Murariu & Benedek 2005 Grig Antip
Fringed Myotis	<i>Myotis thysanodes</i>	331.3699	No	Farrell & Studier 1980 Mamm Sp
Fulvous Colilargo	<i>Oligoryzomys fulvescens</i>	1224.752	No	Nowak 1999 Mammal Book
Fulvous Harvest Mouse	<i>Reithrodontomys fulvescens</i>	731.2597	No	Spencer & Cameron 1982 Mamm Sp
Furtive Tuco-tuco	<i>Ctenomys occultus</i>	547.2563	No	Lacey & Ebensperger 2007 Rodent Societies
Gabon Talapoin	<i>Miopithecus ogouensis</i>	1182.779	No	Nowak 1999 Mammal Book
Gambian Epauletted Fruit Bat	<i>Epomophorus gambianus</i>	622.2	No	Boulay & Robbins 1989
Gambian Mongoose	<i>Mungos gambianus</i>	1141.721	No	SilleroZubiri2001
Gansu Mole	<i>Scapanulus oweni</i>	612.5438	No	Nowak 1999 Mammal Book
Gansu Shrew	<i>Sorex cansulus</i>	628.9678	No	Murariu & Benedek 2005 Grig Antip
Garden Dormouse	<i>Eliomys quercinus</i>	636.6937	No	Bertolino et al. 2001 J Zool
Gaumer's Spiny Pocket Mouse	<i>Heteromys gaumeri</i>	1341.954	No	Schmidt et al. 1989 Mamm Sp
Geata Mouse Shrew	<i>Myosorex geata</i>	1149.331	No	Murariu & Benedek 2005 Grig Antip
Gee's Golden Langur	<i>Trachypithecus geei</i>	873.7387	No	Kappeler 1999 Primate Communities Book

Gelada	<i>Theropithecus gelada</i>	408.0118	No	Nowak 1999 Mammal Book
Gemsbok	<i>Oryx gazella</i>	126.5107	No	Nowak 1999 Mammal Book
Geoffroy's Spider Monkey	<i>Ateles geoffroyi</i>	907.6145	No	Nowak 1999 Mammal Book
Geoffroy's Tamarin	<i>Saguinus geoffroyi</i>	1143.575	pair bond	Porter 2001 Folia Primat
Geoffroy's Cat	<i>Leopardus geoffroyi</i>	421.2	No	Dalerum 2007
Gerenuk	<i>Litocranius walleri</i>	462.4694	No	Leuthold 1978 Z Tierpsychol
Giant Anteater	<i>Myrmecophaga tridactyla</i>	563.4702	No	Rose & Gaudin 2010 Enc of Life Sciences
Giant Armadillo	<i>Priodontes maximus</i>	990.8928	No	Carter & Encarnacao 1983
Giant Blind Mole Rat	<i>Spalax giganteus</i>	295.3794	No	Nevo 2007 Rodent Societies book
Giant Forest Hog	<i>Hylochoerus meinertzhageni</i>	502.9815	pair bond	Nowak 1999 Mammal Book
Giant Kangaroo Rat	<i>Dipodomys ingens</i>	221.8039	No	Cooper et al. 2007
Giant Mole Shrew	<i>Anourosorex schmidi</i>	901.4566	No	Murariu & Benedek 2005 Grig Antip
Giant Mouse Lemur	<i>Mirza coquereli</i>	683.7744	No	Nowak 1999 Mammal Book
Giant Noctule	<i>Nyctalus lasiopterus</i>	553.8102	No	Popa-Lisseanu et al. 2008 An Behav
Giant Otter	<i>Pteronura brasiliensis</i>	1634.2	pair bond	Dalerum 2007
Giant Panda	<i>Ailuropoda melanoleuca</i>	749.9049	No	Dalerum 2007
Giant Pocket Gopher.	<i>Orthogeomys grandis</i>	784.9354	No	Goldman 1939 J Mamm
Giant White-tailed Uromys	<i>Uromys caudimaculatus</i>	885.1842	No	Theimer 2001 J Trop Ecol
Giraffe	<i>Giraffa camelopardalis</i>	337.9389	No	Nowak 1999 Mammal Book
Glacier Bay Water Shrew	<i>Sorex alaskanus</i>	474.2415	No	Murariu & Benedek 2005 Grig Antip
Glass's Shrew	<i>Crocidura glassi</i>	655.1794	No	Murariu & Benedek 2005 Grig Antip
Glover's Pika	<i>Ochotona gloveri</i>	425.108	No	Smith 2008 book chapter
Gmelin's White-toothed Shrew	<i>Crocidura gmelini</i>	127.2011	No	Murariu & Benedek 2005 Grig Antip
Gobi Jerboa	<i>Allactaga bullata</i>	172.2687	No	Randall 2007 Rodent societies book
Goeldi's Marmoset	<i>Callimico goeldii</i>	1339.015	No	Porter 2001 Folia Primat
Goitered Gazelle	<i>Gazella subgutturosa</i>	118.0598	No	Martin 2000 J Zool

Golden Angwantibo	<i>Arctocebus calabarensis</i>	1138.588	No	Nowak 1999 Mammal Book
Golden Bamboo Lemur	<i>Hapalemur aureus</i>	1301.601	No	Tan 2007 Lemur Book
Golden Bandicoot	<i>Isodon auratus</i>	552.6208	No	Southgate et al. 1996 Wild Res
Golden Hamster	<i>Mesocricetus auratus</i>	212.6178	No	Nowak 1999 Mammal Book
Golden Lion Tamarin	<i>Leontopithecus rosalia</i>	1190.319	pair bond	Fernandez-Duque et al. 2012
Golden Mouse	<i>Ochrotomys nuttalli</i>	907.1223	No	Linzey & Packard 1977 Mamm Sp
Golden Short-palated Fruit Bat	<i>Casinycteris argynnis</i>	789.3292	No	Isaac et al. 2005
Golden Spiny Mouse	<i>Acomys russatus</i>	110.5495	No	Nowak 1999 Mammal Book
Golden-bellied Capuchin	<i>Cebus xanthosternos</i>	623.1389	No	Nowak 1999 Mammal Book
Golden-bellied Mangabey	<i>Cercocebus chrysogaster</i>	1143.064	No	Nowak 1999 Mammal Book
Golden-bellied Treeshrew	<i>Tupaia chrysogaster</i>	1053.85	No	Nowak 1999 Mammal Book
Golden-capped Fruit Bat	<i>Acerodon jubatus</i>	1320.385	No	Dalerum 2007
Golden-crowned Sifaka	<i>Propithecus tattersalli</i>	1280.578	No	Quemere et al. 2009 Cons Gen
Golden-headed Lion Tamarin	<i>Leontopithecus chrysomelas</i>	1287.665	pair bond	Fernandez-Duque et al. 2012
Golden-mantled Ground Squirrel	<i>Spermophilus lateralis</i>	411.6676	No	Hare & Murie 2007 Rodent Society Book
Golden-mantled Tamarin	<i>Saguinus tripartitus</i>	1372.879	pair bond	Porter 2001 Folia Primat
Golden-rumped Elephant Shrew	<i>Rhynchocyon chrysopygus</i>	1059	pair bond	Rathbun 1979 Mamm Sp
Goldman's Woodrat	<i>Neotoma goldmani</i>	239.3819	No	Nowak 1999 Mammal Book
Goldman's Broad-clawed Shrew	<i>Cryptotis goldmani</i>	1120.532	No	Murariu & Benedek 2005 Grig Antip
Goliath Shrew	<i>Crocidura goliath</i>	1198.643	No	Murariu & Benedek 2005 Grig Antip
Gongshan Muntjac	<i>Muntiacus gongshanensis</i>	940.9999	No	Nowak 1999 Mammal Book
Goodfellow's Tuco-tuco	<i>Ctenomys goodfellowi</i>	958.7533	No	Lacey & Ebensperger 2007 Rodent Societies
Goodwin's Calomyscus	<i>Calomyscus elburzensis</i>	225.4956	No	Nowak 1999 Mammal Book
Goodwin's Broad-clawed Shrew	<i>Cryptotis goodwini</i>	1200.747	No	Murariu & Benedek 2005 Grig Antip
Gorgas' Oryzomys	<i>Oryzomys gorgasi</i>	825.9	No	Nowak 1999 Mammal Book
Gorontalo Macaque	<i>Macaca nigrescens</i>	1482.747	No	Nowak 1999 Mammal Book

Gotel Mountain Praomys	<i>Praomys obscurus</i>	883.208	No	Nowak 1999 Mammal Book
Gould's Long-eared Bat	<i>Nyctophilus gouldi</i>	474.5	No	Isaac et al. 2005
Gould's Wattled Bat	<i>Chalinolobus gouldii</i>	191.7055	No	Chruszcz & Barclay 2002
Goya Tuco-tuco	<i>Ctenomys perrensi</i>	561.5869	No	Lacey & Ebensperger 2007 Rodent Societies
Gracile Atlantic Spiny-rat	<i>Trinomys graciosus</i>	1125.908	No	Attias et al. 2009 Zoologia
Gracile Naked-tailed Shrew	<i>Crocidura maurisca</i>	1005.591	No	Murariu & Benedek 2005 Grig Antip
Gracile Tateril	<i>Taterillus gracilis</i>	59.30868	No	Nowak 1999 Mammal Book
Granada Hare	<i>Lepus granatensis</i>	371.3944	No	Nowak 1999 Mammal Book
Grandidier's Tufted-tailed Rat	<i>Eliurus grandidieri</i>	1342.086	No	Nowak 1999 Mammal Book
Grant's Forest Shrew	<i>Sylvisorex granti</i>	1120.064	No	Murariu & Benedek 2005 Grig Antip
Grasse's Shrew	<i>Crocidura grassei</i>	1206.458	No	Murariu & Benedek 2005 Grig Antip
Grauer's Large-headed Shrew	<i>Paracrocidura graueri</i>	1027.488	No	Murariu & Benedek 2005 Grig Antip
Gray African Climbing Mouse	<i>Dendromus melanotis</i>	410.3	No	Nowak 1999 Mammal Book
Gray Bamboo Lemur	<i>Haplemur griseus</i>	786.7182	Yes	Nievergelt et al. 2002 AJP
Gray Birch Mouse	<i>Sicista pseudonapaea</i>	344.8677	No	Nowak 1999 Mammal Book
Gray Four-eyed Opossum	<i>Philander opossum</i>	806.1384	No	Castro-Arellano et al. 2000
Gray Fox	<i>Urocyon cinereoargenteus</i>	559.1883	pair bond	Dalerum 2007
Gray Mouse Lemur	<i>Microcebus murinus</i>	667.963	No	Radespiel 2000 AJP
Gray Red-backed Vole	<i>Myodes rufocanus</i>	469.689	No	Ishibashi & Saitoh 2008 Mol Ecol
Gray Sac-winged Bat	<i>Balantiopteryx plicata</i>	732.2	No	Isaac et al. 2005
Gray Short-tailed Opossum	<i>Monodelphis domestica</i>	433.0097	No	Macrini 2004 Mamm Sp
Gray Slender Loris	<i>Loris lydekkerianus</i>	991.2947	No	Nowak 1999 Mammal Book
Gray Spiny Mouse	<i>Acomys cineraceus</i>	436.798	No	Nowak 1999 Mammal Book
Gray Woolly Monkey	<i>Lagothrix cana</i>	870.5951	No	di Fiore & Fleischer 2005 IJP
Gray-bellied Mouse	<i>Mus triton</i>	824.9273	No	Delany 1972
Gray-bellied Night Monkey	<i>Aotus lemurinus</i>	1102.378	pair bond	Nowak 1999 Mammal Book

Gray-bellied Pogonomys	<i>Pogonomys sylvestris</i>	1184.285	No	Nowak 1999 Mammal Book
Gray-bellied Squirrel	<i>Callosciurus caniceps</i>	1404.741	No	Tamura 1993 J Mamm
Gray-cheeked Mangabey	<i>Lophocebus albigena</i>	1147.314	No	Nowak 1999 Mammal Book
Gray-headed Flying Fox	<i>Pteropus poliocephalus</i>	1140.595	No	Isaac et al. 2005
Gray-shanked Douc Langur	<i>Pygathrix cinerea</i>	1155.981	No	Kappeler 1999 Primate Communities Book
Great Balkhan Calomyscus	<i>Calomyscus mystax</i>	436.6399	No	Nowak 1999 Mammal Book
Great Basin Pocket Mouse	<i>Perognathus parvus</i>	344.7417	No	Jones 1985 J Mamm
Great Gerbil	<i>Rhombomys opimus</i>	221.1029	No	Randall 2007 Rodent Societies Book
Great Jerboa	<i>Allactaga major</i>	288.9158	No	Heske et al. 1995 J Mamm
Great Stripe-faced Bat	<i>Vampyroides caraccioli</i>	901.6356	No	Isaac et al. 2005
Greater Asiatic Yellow House Bat	<i>Scotophilus heathii</i>	1013.588	No	Isaac et al. 2005
Greater Bamboo Bat	<i>Tylonycteris robustula</i>	1234.25	No	Isaac et al. 2005
Greater Bamboo Lemur	<i>Prolemur simus</i>	1507.338	No	Wright et al. 2008 Primat Cons
Greater Bandicoot Rat	<i>Bandicota indica</i>	1090.407	No	Nowak 1999 Mammal Book
Greater Bilby	<i>Macrotis lagotis</i>	563.326	No	Pavey 2006 NTR National Recovery Plan
Greater Blind Mole Rat	<i>Spalax microphthalmus</i>	459.9277	No	Ebensberger & Hayes 2008
Greater Bulldog Bat	<i>Noctilio leporinus</i>	1067.325	No	Brooke 1997 Ethology
Greater Cane Rat	<i>Thryonomys swinderianus</i>	672.5	No	Nowak 1999 Mammal Book
Greater Congo Shrew	<i>Congosorex polli</i>	630.7395	No	Murariu & Benedek 2005 Grig Antip
Greater Dog-like Bat	<i>Peropteryx kappleri</i>	531.9347	No	Isaac et al. 2005
Greater Dwarf Lemur	<i>Cheirogaleus major</i>	1298.719	pair bond	Lahann IJP 2008
Greater Dwarf Shrew	<i>Suncus lixus</i>	686.2412	No	Murariu & Benedek 2005 Grig Antip
Greater Egyptian Gerbil	<i>Gerbillus pyramidum</i>	117.9073	No	Randall 2007 Rodent Societies Book
Greater Egyptian Jerboa	<i>Jaculus orientalis</i>	436.25	No	Hooper & Hilali 1972 J Mamm
Greater Forest Shrew	<i>Sylvisorex ollula</i>	1158.3	No	Murariu & Benedek 2005 Grig Antip
Greater Glider	<i>Petauroides volans</i>	588.6665	No	Lindenmayer 1997 J Mamm

Greater Grison	<i>Galictis vittata</i>	1264.453	No	Dalerum 2007
Greater Guinea Pig	<i>Cavia magna</i>	939.382	No	Ebersperger & Blumstein 2006 BE
Greater Hedgehog Tenrec	<i>Setifer setosus</i>	745.5381	No	Eisenberg & Gould 1967 Int Zool YB
Greater Horseshoe Bat	<i>Rhinolophus ferrumequinum</i>	924.5128	No	Rossiter et al. 2002 BES
Greater Kudu	<i>Tragelaphus strepsiceros</i>	108.4683	No	Nowak 1999 Mammal Book
Greater Large-headed Shrew	<i>Paracrocidura maxima</i>	801.6496	No	Murariu & Benedek 2005 Grig Antip
Greater Long-nosed Armadillo	<i>Dasypus kappleri</i>	1153.084	No	Rose & Gaudin 2010 Enc of Life Sciences
Greater Long-tailed Hamster	<i>Tscherskia triton</i>	509.7872	No	Nowak 1999 Mammal Book
Greater Mindanao Shrew	<i>Crocidura grandis</i>	1359.605	No	Murariu & Benedek 2005 Grig Antip
Greater Mouse-deer	<i>Tragulus napu</i>	1427.739	No	Nowak 1999 Mammal Book
Greater Naked-tailed Armadillo	<i>Cabassous tatouay</i>	844.8	No	Carter & Encarnacao 1983
Greater Pencil-tailed Tree Mouse	<i>Chiropodomys major</i>	1371.424	No	Wells et al. 2004 Ecotr
Greater Red Musk Shrew	<i>Crocidura flavescens</i>	582.3944	No	Murariu & Benedek 2005 Grig Antip
Greater Sac-winged Bat	<i>Saccopteryx bilineata</i>	1634.5	No	Yancey et al. 1998 Mamm Sp
Greater Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	304.3175	No	Storz et al. 2001 Evolution
Greater Spear-nosed Bat	<i>Phyllostomus hastatus</i>	597.4024	No	Santos et al. 2003 Mamm Sp
Greater spot-nosed Monkey	<i>Cercopithecus nictitans</i>	1142.133	No	Gautier-Hion 1980 J Anim Ecol
Greater White-toothed Shrew	<i>Crocidura russula</i>	201.6506	No	Murariu & Benedek 2005 Grig Antip
Green Acouchi	<i>Myoprocta pratti</i>	1373.147	pair bond	Dubost 1987 J Zool
Green Monkey	<i>Chlorocebus sabaeus</i>	962.0239	No	Bi et al. 2009 Primat cons
Greenwood's Shrew	<i>Crocidura greenwoodi</i>	604.2366	No	Murariu & Benedek 2005 Grig Antip
Grévy's Zebra	<i>Equus grevyi</i>	347.9858	No	Nowak 1999 Mammal Book
Grivet	<i>Chlorocebus aethiops</i>	555.4987	No	Pruetz & Isbell 2000
Grizzled Colilargo	<i>Oligoryzomys griseolus</i>	1137.533	No	Nowak 1999 Mammal Book
Grizzled Mexican Small-eared Shrew	<i>Cryptotis obscura</i>	1239.501	No	Murariu & Benedek 2005 Grig Antip
Grobben's Gerbil	<i>Gerbillus grobbeni</i>	212.2034	No	Randall 2007 Rodent Societies Book

Guaira Spiny-rat	<i>Proechimys guairae</i>	1172.024	No	Ebensperger & Blumstein 2006 BE
Guanacache Tuco-tuco	<i>Ctenomys validus</i>	175.4277	No	Lacey & Ebensperger 2007 Rodent Societies
Guatemalan Black Howler	<i>Alouatta pigra</i>	1350.943	No	Nowak 1999 Mammal Book
Guatemalan Broad-clawed Shrew	<i>Cryptotis griseoventris</i>	1199.734	No	Murariu & Benedek 2005 Grig Antip
Gudaur Snow Vole	<i>Chionomys gud</i>	574.4576	No	Janeau & Aulagnier 1997 J Mount Ecol
Guemal	<i>Hippocamelus bisulcus</i>	451.8703	No	Povilitis 1983 J Mamm
Guinea Baboon	<i>Papio papio</i>	648.3	No	Nowak 1999 Mammal Book
Guinean Arvicanthis	<i>Arvicanthis rufinus</i>	1101.88	No	Nowak 1999 Mammal Book
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	209.4471	No	Travis & Slobodchikoff 1993 Can J Zool
Guramba Shrew	<i>Crocidura phaeura</i>	1246.262	No	Murariu & Benedek 2005 Grig Antip
Guyan Red Howler	<i>Alouatta macconnelli</i>	1401.122	No	Nowak 1999 Mammal Book
Haig's Tuco-tuco	<i>Ctenomys haigi</i>	342.5025	No	Lacey & Ebensperger 2007 Rodent Societies
Hainan Hare	<i>Lepus hainanus</i>	1099.031	No	Nowak 1999 Mammal Book
Hainan Island Shrew	<i>Crocidura wuchihensis</i>	1267.007	No	Murariu & Benedek 2005 Grig Antip
Hairy Atlantic Spiny-rat	<i>Trinomys setosus</i>	988.739	No	Attias et al. 2009 Zoologia
Hairy Harvest Mouse	<i>Reithrodontomys hirsutus</i>	777.7333	No	Nowak 1999 Mammal Book
Hairy Long-nosed Armadillo	<i>Dasypus pilosus</i>	1148.46	No	Rose & Gaudin 2010 Enc of Life Sciences
Hairy Slit-faced Bat	<i>Nycteris hispida</i>	642.3667	pair bond	Isaac et al. 2005
Hairy-eared Dwarf Lemur	<i>Allocebus trichotis</i>	1418.804	No	Biebouw 2009
Hairy-soled Conyrat	<i>Reithrodon auritus</i>	489.0919	No	Pardinas & Galliari 2001 Mamm Sp
Hairy-tailed Mole	<i>Parascalops breweri</i>	470.4	No	Nowak 1999 Mammal Book
Hamadryas Baboon	<i>Papio hamadryas</i>	127.9272	No	Nowak 1999 Mammal Book
Hamlyn's Monkey	<i>Cercopithecus hamlyni</i>	1282.931	No	Nowak 1999 Mammal Book
Hammer-headed Fruit Bat	<i>Hypsignathus monstrosus</i>	592.92	No	Langevin & Barclay 1990 Mamm Sp
Haremma Shrew	<i>Crocidura haremma</i>	1310.009	No	Murariu & Benedek 2005 Grig Antip
Harris's Antelope Squirrel	<i>Ammospermophilus harrisi</i>	119.2529	No	Best et al. 1990 Mammal Sp

Hartebeest	<i>Alcelaphus buselaphus</i>	588.3716	No	Nowak 1999 Mammal Book
Hartwig's Praomys	<i>Praomys hartwigi</i>	1024.365	No	Nowak 1999 Mammal Book
Hatinh Langur	<i>Trachypithecus hatinhensis</i>	1302.114	No	Kappeler 1999 Primate Communities Book
Hazel Dormouse	<i>Muscardinus avellanarius</i>	620.1	No	Juskaitis 2005 Mamm Biol
Heart-nosed Bat	<i>Cardioderma cor</i>	420.6901	pair bond	Csada 1996
Heather Shrew	<i>Crocidura erica</i>	788.8944	No	Murariu & Benedek 2005 Grig Antip
Heck's Macaque	<i>Macaca hecki</i>	1265.167	No	Nowak 1999 Mammal Book
Heermann's Kangaroo Rat	<i>Dipodomys heermanni</i>	345.3133	No	Yoerg 1999 Ethology
Hemprich's Desert Bat	<i>Otonycteris hemprichii</i>	366.0592	No	Gharaibeh & Qumsiyeh 1995 Mamm Sp
Heptner's Pygmy Jerboa	<i>Salpingotus heptneri</i>	133.208	No	Randall 2007 Rodent societies book
Hershkovitz' Titi	<i>Callicebus dubius</i>	1384.505	pair bond	Kappeler 1999 Primate Communities Book
Highland Streaked Tenrec	<i>Hemicentetes nigriceps</i>	832.6519	No	Marshall & Eisenberg 1996 Mamm Sp
Highland Tuco-tuco	<i>Ctenomys opimus</i>	165.9802	No	Lacey & Ebensperger 2007 Rodent Societies
Hildegard's Shrew	<i>Crocidura hildegardae</i>	837.0844	No	Murariu & Benedek 2005 Grig Antip
Hildegard's Tomb Bat	<i>Taphozous hildegardae</i>	1409.432	No	Colket 1998
Hill's Shrew	<i>Crocidura hilliana</i>	1225.852	No	Murariu & Benedek 2005 Grig Antip
Himalayan Goral	<i>Naemorhedus goral</i>	680.6721	No	Pendharkar & Goyal 1995 J Mamm
Himalayan Musk Deer	<i>Moschus leucogaster</i>	688.1792	No	Nowak 1999 Mammal Book
Himalayan Pika	<i>Ochotona himalayana</i>	648.7756	No	Smith 2008 book chapter
Himalayan Serow	<i>Capricornis thar</i>	676.2387	No	Nowak 1999 Mammal Book
Himalayan Shrew	<i>Soriculus nigrescens</i>	739.6851	No	Murariu & Benedek 2005 Grig Antip
Himalayan Tahr	<i>Hemitragus jemlahicus</i>	688.1498	No	Tustin & Challies 1978 New Zeal J Ecol
Himalayan Water Shrew	<i>Chimarrogale himalayica</i>	765.058	No	Murariu & Benedek 2005 Grig Antip
Hinde's Aethomys	<i>Aethomys hindei</i>	656.9552	No	Nowak 1999 Mammal Book
Hinde's Pouched Rat	<i>Beamys hindei</i>	931.1952	No	Nowak 1999 Mammal Book
Hispaniolan Solenodon	<i>Solenodon paradoxus</i>	1158.025	No	Nowak 1999 Mammal Book

Hispid Cotton Rat	<i>Sigmodon hispidus</i>	763.5116	No	Nowak 1999 Mammal Book
Hispid Hare	<i>Caprolagus hispidus</i>	601.0525	pair bond	Nowak 1999 Mammal Book
Hispid Hociudo	<i>Oxymycterus hispidus</i>	1088.169	No	Nowak 1999 Mammal Book
Hispid Pocket Gopher.	<i>Orthogeomys hispidus</i>	1266.201	No	Goldman 1939 J Mamm
Hispid Pocket Mouse	<i>Chaetodipus hispidus</i>	402.6157	No	Paulson 1988 Mamm Sp
Hoary Bat	<i>Lasiurus cinereus</i>	1032.089	No	Shump & Shump 1982 Mamm Sp
Hoary Marmot	<i>Marmota caligata</i>	320.4509	pair bond	Blumstein & Armitage 1999 Oikos
Hoffmann's Two-toed Sloth	<i>Choloepus hoffmanni</i>	1142.49	No	Rose & Gaudin 2010 Enc of Life Sciences
Hoffmanns's Titi	<i>Callicebus hoffmannsi</i>	1437.196	pair bond	Kappeler 1999 Primate Communities Book
Hog Deer	<i>Axis porcinus</i>	819.6641	No	Odden & Wegge 2007 Zool
Hog-nosed Bat	<i>Craseonycteris thonglongyai</i>	1082.817	No	Hutson et al. 2001
Honduran Small-eared Shrew	<i>Cryptotis hondurensis</i>	1347.392	No	Murariu & Benedek 2005 Grig Antip
Honduran White Bat	<i>Ectophylla alba</i>	1363.902	No	Isaac et al. 2005
Honey Badger	<i>Mellivora capensis</i>	440.0207	No	Dalerum 2007
Hooded Skunk	<i>Mephitis macroura</i>	427.9363	No	Hwang & Lariviere 2001
Hoogstraal's Gerbil	<i>Gerbillus hoogstraali</i>	142.301	No	Randall 2007 Rodent Societies Book
Horsfield's Fruit Bat	<i>Cynopterus horsfieldii</i>	1499.242	No	Campbell 2006
Horsfield's Tarsier	<i>Tarsius bancanus</i>	1262.975	No	Nowak 1999 Mammal Book
Horsfield's Treeshrew	<i>Tupaia javanica</i>	1380.15	No	Nowak 1999 Mammal Book
Horsfield's Shrew	<i>Crocidura horsfieldii</i>	1078.192	No	Murariu & Benedek 2005 Grig Antip
Hose's Langur	<i>Presbytis hosei</i>	1304	No	Nowak 1999 Mammal Book
Hotson's Calomyscus	<i>Calomyscus hotsoni</i>	70.04667	No	Nowak 1999 Mammal Book
Hotson's Jerboa	<i>Allactaga hotsoni</i>	61.9933	No	Randall 2007 Rodent societies book
Howell's Forest Shrew	<i>Sylvisorex howelli</i>	1238.305	No	Murariu & Benedek 2005 Grig Antip
Humboldt's Hog-nosed Skunk	<i>Conepatus humboldtii</i>	454.3607	No	Dalerum 2007
Hun Shrew	<i>Crocidura attila</i>	694.9394	No	Murariu & Benedek 2005 Grig Antip

Hutan Shrew	<i>Crocidura hutanis</i>	980.6	No	Murariu & Benedek 2005 Grig Antip
Hutterer's Brush-furred Rat	<i>Lophuromys huttereri</i>	1113.205	No	Nowak 1999 Mammal Book
Iberian Lynx	<i>Lynx pardinus</i>	337.4494	No	Dalerum 2007
Iberian Shrew	<i>Sorex granarius</i>	535.2833	No	Murariu & Benedek 2005 Grig Antip
Idaho Pocket Gopher.	<i>Thomomys idahoensis</i>	353.2299	No	Nowak 1999 Mammal Book
Ihering's Atlantic Spiny-rat	<i>Trinomys iheringi</i>	1212.445	No	Ebensperger & Blumstein 2006 BE
Ili Pika	<i>Ochotona iliensis</i>	396.7767	No	Wei-Dong & Smith 2005 Oryx
Impala	<i>Aepyceros melampus</i>	646.4082	No	Hart & Hart 1992 Anim Behav
Inca Hociucudo	<i>Oxymycterus inca</i>	1214.487	No	Nowak 1999 Mammal Book
Indian Crested Porcupine	<i>Hystrix indica</i>	427.1043	pair bond	Rodriguez-Girones & Enquist 2001 Anim Behav
Indian Desert Jird	<i>Meriones hurrianae</i>	168.6606	No	Randall 2007 Rodent Societies Book
Indian Flying Fox	<i>Pteropus giganteus</i>	1377.304	No	Isaac et al. 2005
Indian Gerbil	<i>Tatera indica</i>	50.5	No	Randall 2007 Rodent Societies Book
Indian Giant Squirrel	<i>Ratufa indica</i>	523.7	No	Somanthan et al. 2007 Ecoscience
Indian Hairy-footed Gerbil	<i>Gerbillus gleadowi</i>	160.4404	No	Randall 2007 Rodent Societies Book
Indian Hare	<i>Lepus nigricollis</i>	1285.76	No	Nowak 1999 Mammal Book
Indian Hedgehog	<i>Paraechinus micropus</i>	335.5426	No	Nowak 1999 Mammal Book
Indian Long-eared Hedgehog	<i>Hemiechinus collaris</i>	402.1461	No	Nowak 1999 Mammal Book
Indian Palm Squirrel	<i>Funambulus palmarum</i>	675.5866	No	Seth 1969
Indian Pangolin	<i>Manis crassicaudata</i>	782.12	No	Wilson 1994 Int Zool Yb
Indian Rhinoceros	<i>Rhinoceros unicornis</i>	910.8973	No	Nowak 1999 Mammal Book
Indian Spotted Chevrotain	<i>Moschiola meminna</i>	882.275	No	Nowak 1999 Mammal Book
Indiana Myotis	<i>Myotis sodalis</i>	649.7144	No	Thomson 1982 Mamm Sp
Indochinese Ground Squirrel	<i>Menetes berdmorei</i>	880.4	No	Walker & Rabinowitz 1992 J Trop Ecol
Indochinese Lutung	<i>Trachypithecus germaini</i>	1417.116	No	Kappeler 1999 Primate Communities Book
Indochinese Short-tailed Shrew	<i>Blarinella griselda</i>	554.1352	No	Murariu & Benedek 2005 Grig Antip

Indochinese Shrew	<i>Crocidura indochinensis</i>	1097.519	No	Murariu & Benedek 2005 Grig Antip
Indomalayan Bamboo Rat	<i>Rhizomys sumatrensis</i>	1297.269	No	Lacey et al. 2000 Subterranean Rodent book
Indomalayan Maxomys	<i>Maxomys surifer</i>	1326.118	No	Walker & Rabinowitz 1992 J Trop Ecol
Indri	<i>Indri indri</i>	1431.19	pair bond	Curtis & Zaramody 1999
Inyo Shrew	<i>Sorex tenellus</i>	127.4804	No	Murariu & Benedek 2005 Grig Antip
Iranian Jerboa	<i>Allactaga firouzi</i>	122.7208	No	Randall 2007 Rodent societies book
Iranian Shrew	<i>Crocidura susiana</i>	106.084	No	Murariu & Benedek 2005 Grig Antip
Isarog Shrew Mouse	<i>Archboldomys luzonensis</i>	1276.307	No	Balete et al. 2006 Syst Biodiv
Island Fox	<i>Urocyon littoralis</i>	932.2	No	Dalerum 2007
Jackass Shrew	<i>Crocidura arispa</i>	343.3657	No	Murariu & Benedek 2005 Grig Antip
Jackson's African Fat Mouse	<i>Steatomys jacksoni</i>	1130.211	No	Nowak 1999 Mammal Book
Jackson's Praomys	<i>Praomys jacksoni</i>	741.3058	No	Nowak 1999 Mammal Book
Jackson's Shrew	<i>Crocidura jacksoni</i>	707.9005	No	Murariu & Benedek 2005 Grig Antip
Jaguar	<i>Panthera onca</i>	1299.295	No	Dalerum 2007
Jamaican Fruit-eating Bat	<i>Artibeus jamaicensis</i>	1107.224	No	Ortega et al. 2003 Mol Ecol
Jamaican Hutia	<i>Geocapromys brownii</i>	1424.596	No	Anderson 1983 Mamm sp
Jameson's Red Rock Hare	<i>Pronolagus randensis</i>	199.2407	No	Nowak 1999 Mammal Book
Japanese Dormouse	<i>Glirulus japonicus</i>	742.6525	No	Shibata et al. 2004 J Mamm
Japanese Giant Flying Squirrel	<i>Petaurista leucogenys</i>	751.8677	No	Kawamichi 1997 Mam St
Japanese Hare	<i>Lepus brachyurus</i>	1000.511	No	Nowak 1999 Mammal Book
Japanese Macaque	<i>Macaca fuscata</i>	677.96	No	Nowak 1999 Mammal Book
Japanese Mole	<i>Mogera wogura</i>	878.8746	No	Yokohata 2005 Mamm Stud
Japanese Mountain Mole	<i>Euroscaptor mizura</i>	719.3624	No	Yokohata 2005 Mamm Stud
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	1232.999	No	Funakoshi 1982
Japanese Serow	<i>Capricornis crispus</i>	660.83	No	Nowak 1999 Mammal Book
Japanese Shrew Mole	<i>Urotrichus talpoides</i>	920.5691	No	Ishii 1993 J Mamm Soc Jap

Japanese Water Shrew	Chimarrogale platycephalus	732.0727	No	Murariu & Benedek 2005 Grig Antip
Java Mouse-deer	Tragulus javanicus	919.3369	No	Nowak 1999 Mammal Book
Java Warty Pig	Sus verrucosus	1548.768	No	Clayton & Macdonald 1999
Javan Lutung	Trachypithecus auratus	1327.204	No	Kappeler 1999 Primate Communities Book
Javan Rhinoceros	Rhinoceros sondaicus	1306.3	No	Nowak 1999 Mammal Book
Javan Surili	Presbytis comata	1460.322	No	Nowak 1999 Mammal Book
Javanese Shrew	Crocidura maxi	1324.984	No	Murariu & Benedek 2005 Grig Antip
Jenkin's Shrew	Crocidura jenkinsi	1430.974	No	Murariu & Benedek 2005 Grig Antip
Jentink's Duiker	Cephalophus jentinki	1220.2	No	Nowak 1999 Mammal Book
Johan's Spiny Mouse	Acomys johannis	374.7383	No	Nowak 1999 Mammal Book
Johnston's Forest Shrew	Sylvisorex johnstoni	1100.5	No	Murariu & Benedek 2005 Grig Antip
Jouvenet's Shrew	Crocidura juvenetae	1292.008	No	Murariu & Benedek 2005 Grig Antip
Jujuy Tuco-tuco	Ctenomys juris	600.9166	No	Lacey & Ebensperger 2007 Rodent Societies
Jungle Palm Squirrel	Funambulus tristriatus	1067.1	No	Bhat & Mathew 1984 Trop Ecol
Jungle Shrew	Suncus zeylanicus	1504.334	No	Murariu & Benedek 2005 Grig Antip
Kaapori Capuchin	Cebus kaapori	1448.552	No	Nowak 1999 Mammal Book
Kahuzi Swamp Shrew	Crocidura stenocephala	747.8219	No	Murariu & Benedek 2005 Grig Antip
Kaiser's Aethomys	Aethomys kaiseri	801.529	No	Nowak 1999 Mammal Book
Kamchatka Shrew	Sorex camtschatica	424.7727	No	Murariu & Benedek 2005 Grig Antip
Kashmir Gray Langur	Semnopithecus ajax	489.6158	No	Nowak 1999 Mammal Book
Kashmir Musk Deer	Moschus cupreus	414.1019	No	Nowak 1999 Mammal Book
Kashmir Pygmy Shrew	Sorex planiceps	393.5574	No	Murariu & Benedek 2005 Grig Antip
Kashmir White-toothed Shrew	Crocidura pullata	400.4243	No	Murariu & Benedek 2005 Grig Antip
Katinka's Shrew	Crocidura katinka	194.1521	No	Murariu & Benedek 2005 Grig Antip
Kazakhstan Blind Mole Rat	Spalax uralensis	177.5976	No	Nevo 2007 Rodent Societies book
Kazbeg Birch Mouse	Sicista kazbegica	556.6995	No	Nowak 1999 Mammal Book

Keen's Myotis	Myotis keenii	436.9264	No	Fitch & Shump 1979 Mamm Sp
Kelaart's Long-clawed Shrew	Feroculus feroculus	1340.019	No	Murariu & Benedek 2005 Grig Antip
Kemp's Spiny Mouse	Acomys kempii	470.0709	No	Nowak 1999 Mammal Book
Kiang	Equus kiang	608.0408	No	Nowak 1999 Mammal Book
Kihaule's Mouse Shrew	Myosorex kahaulei	1018.532	No	Murariu & Benedek 2005 Grig Antip
Kilimanjaro Mouse Shrew	Myosorex zinki	1036.052	No	Murariu & Benedek 2005 Grig Antip
Kilimanjaro Shrew	Crocidura monax	1152.686	No	Murariu & Benedek 2005 Grig Antip
Kimberley Rock Rat	Zyomys woodwardi	670.8324	No	Begg 1981 Wildl Res
Kinabalu Shrew	Crocidura baluensis	1312.589	No	Murariu & Benedek 2005 Grig Antip
King Colobus	Colobus polykomos	714.95	No	Nowak 1999 Mammal Book
King Jird	Meriones rex	156.9349	No	Randall 2007 Rodent Societies Book
Kinkajou	Potos flavus	961.5	No	Dalerum 2007
Kirk's Dikdik	Madoqua kirkii	315.2002	Yes	Nowak 1999/ Brotherton et al. 1997
Kivu Long-haired Shrew	Crocidura lanosa	1054.866	No	Murariu & Benedek 2005 Grig Antip
Kivu Shrew	Crocidura kivuana	1203.52	No	Murariu & Benedek 2005 Grig Antip
Klipspringer	Oreotragus oreotragus	516.4933	pair bond	Nowak 1999 Mammal Book
Klochor Birch Mouse	Sicista kluchorica	549.7409	No	Nowak 1999 Mammal Book
Kloss's Gibbon	Hylobates klossii	1406.969	pair bond	Dallmann & Geismann 2001
Kloss's Mole	Euroscaptor klossii	1201.636	No	Nowak 1999 Mammal Book
Knox Jones's Pocket Gopher.	Geomys knoxjonesi	253.8361	No	Nowak 1999 Mammal Book
Kob	Kobus kob	589.9354	No	Nowak 1999 Mammal Book
Kodkod	Leopardus guigna	502.4375	No	Munoz-Duran 2002 EER
Kongana Shrew	Sylvisorex konganensis	1137.79	No	Murariu & Benedek 2005 Grig Antip
Korean Hare	Lepus coreanus	629.3372	No	Nowak 1999 Mammal Book
Kouprey	Bos sauveli	1276.524	No	Nowak 1999 Mammal Book
Kozlov's Pika	Ochotona koslowi	517.9138	No	Li et al. 2006 Integr Zool

Kozlov's Pygmy Jerboa	<i>Salpingotus kozlovi</i>	180.4222	No	Randall 2007 Rodent societies book
Kozlov's Shrew	<i>Sorex kozlovi</i>	478.3247	No	Murariu & Benedek 2005 Grig Antip
Kreb's African Fat Mouse	<i>Steatomys krebsii</i>	636.9667	No	Nowak 1999 Mammal Book
L'Hoest's Monkey	<i>Cercopithecus lhoesti</i>	1291.663	No	Nowak 1999 Mammal Book
Lago Blanco Tuco-tuco	<i>Ctenomys fodax</i>	382.7452	No	Lacey & Ebensperger 2007 Rodent Societies
Lake Chad Tateril	<i>Taterillus lacustris</i>	149.9585	No	Nowak 1999 Mammal Book
Lami Tuco-tuco	<i>Ctenomys lami</i>	408.1667	No	Lacey & Ebensperger 2007 Rodent Societies
Lamotte's Shrew	<i>Crocidura lamottei</i>	738.1872	No	Murariu & Benedek 2005 Grig Antip
Lamulate Shrew	<i>Chodsigoa lamula</i>	602.0585	No	Murariu & Benedek 2005 Grig Antip
Laotian Langur	<i>Trachypithecus laotum</i>	1281.206	No	Kappeler 1999 Primate Communities Book
Lar Gibbon	<i>Hylobates lar</i>	1201.45	pair bond	Dallmann & Geismann 2001
Large Aden Gerbil.	<i>Gerbillus poecilops</i>	138.1819	No	Randall 2007 Rodent Societies Book
Large Colilargo	<i>Oligoryzomys delticola</i>	604.1287	No	Nowak 1999 Mammal Book
Large Flying Fox	<i>Pteropus vampyrus</i>	1434.122	No	Kunz & Jones 2000 Mamm Sp
Large Forest Bat	<i>Vespadelus darlingtoni</i>	724.652	No	Herr 1999
Large Indian Civet	<i>Viverra zibetha</i>	1033.939	No	Dalerum 2007
Large Long-clawed Akodont	<i>Chelemys megalonyx</i>	502.9042	No	Nowak 1999 Mammal Book
Large Slit-faced Bat	<i>Nycteris grandis</i>	1259.323	No	Isaac et al. 2005
Large Treeshrew	<i>Tupaia tana</i>	1438.241	No	Nowak 1999 Mammal Book
Large-antlered Muntjac	<i>Muntiacus vuquangensis</i>	1351.14	No	Nowak 1999 Mammal Book
Large-eared African Desert Mouse	<i>Malacothrix typica</i>	90.62444	No	Nowak 1999 Mammal Book
Large-eared Giant Mastiff Bat	<i>Otomops martiensseni</i>	417.9299	No	Isaac et al. 2005
Large-eared Gray Shrew	<i>Notiosorex evotis</i>	716.6	No	Murariu & Benedek 2005 Grig Antip
Large-eared Pika	<i>Ochotona macrotis</i>	428.9348	No	Smith 2008 book chapter
Large-eared Tenrec	<i>Geogale aurita</i>	688.5936	No	Stephenson et al. 1994 Int Zoo Yb
Large-footed Irenomys	<i>Irenomys tarsalis</i>	602.301	No	Kelt 1993 Mamm Sp

Large-footed Myotis	<i>Myotis adversus</i>	1400.794	No	Nowak 1999 Mammal Book
Large-headed Shrew	<i>Crocidura grandiceps</i>	1252.523	No	Murariu & Benedek 2005 Grig Antip
Large-toothed Shrew	<i>Sorex macrodon</i>	1067.114	No	Murariu & Benedek 2005 Grig Antip
Lataste's Gerbil	<i>Gerbillus latastei</i>	128.9364	No	Randall 2007 Rodent Societies Book
Latona's Shrew	<i>Crocidura latona</i>	1262.281	No	Murariu & Benedek 2005 Grig Antip
Laxmann's Shrew	<i>Sorex caecutiens</i>	327.2791	No	Murariu & Benedek 2005 Grig Antip
Leadebeater's Possum	<i>Gymnobelideus leadbeateri</i>	825.3495	No	Lindenmayer & Meggs 1996 Aus J Zool
Leaf Deer	<i>Muntiacus putaoensis</i>	1144.937	No	Nowak 1999 Mammal Book
Least Dwarf Shrew	<i>Suncus infinitesimus</i>	702.9777	No	Murariu & Benedek 2005 Grig Antip
Least Gerbil	<i>Gerbillus pusillus</i>	375.8896	No	Randall 2007 Rodent Societies Book
Least Praomys	<i>Praomys minor</i>	495.3648	No	Nowak 1999 Mammal Book
Least Weasel	<i>Mustela nivalis</i>	315.0242	No	Dalerum 2007
Lechwe	<i>Kobus leche</i>	482.2513	No	Nowak 1999 Mammal Book
Leisler's Noctule	<i>Nyctalus leisleri</i>	1005.518	No	Shiel 1999
Lenis Woolly Bat	<i>Kerivoula lenis</i>	1397.1	No	Rossiter et al. 2012
Leopard	<i>Panthera pardus</i>	935.5117	No	Dalerum 2007
Leopard Cat	<i>Prionailurus bengalensis</i>	999.1	No	Grassman 2005
Lesser Bamboo Bat	<i>Tylonycteris pachypus</i>	1325.311	No	Isaac et al. 2005
Lesser Bamboo Rat	<i>Cannomys badius</i>	770.4	No	Sumbera 2001 book chapter
Lesser Bandicoot Rat.	<i>Bandicota bengalensis</i>	774.2141	No	Nowak 1999 Mammal Book
Lesser Big-footed Mouse	<i>Macrotarsomys bastardi</i>	586.3833	pair bond	Sommer et al. 2001 BES
Lesser Blind Mole Rat	<i>Spalax leucodon</i>	423.4846	No	Nevo 2007 Rodent Societies book
Lesser Brown Horseshoe Bat	<i>Rhinolophus stheno</i>	994.9768	No	Rossiter 2012
Lesser Bulldog Bat	<i>Noctilio albiventris</i>	1030.732	No	Bernard 2003
Lesser Cane Rat	<i>Thryonomys gregorianus</i>	887.5	No	Nowak 1999 Mammal Book
Lesser Chiruromys	<i>Chiruromys vates</i>	1382.544	No	Nowak 1999 Mammal Book

Lesser Congo Shrew	Congosorex verheyeni	1248.693	No	Murariu & Benedek 2005 Grig Antip
Lesser Dawn Bat	Eonycteris spelaea	1414.772	No	Isaac et al. 2005
Lesser Dog-like Bat	Peropteryx macrotis	1574.97	No	Yee 2000
Lesser Dwarf Lemur	Cheirogaleus medius	699.3147	pair bond	Lahann IJP 2008
Lesser Dwarf Shrew	Suncus varilla	644.5248	No	Murariu & Benedek 2005 Grig Antip
Lesser Egyptian Gerbil	Gerbillus gerbillus	47.20874	No	Randall 2007 Rodent Societies Book
Lesser Egyptian Jerboa	Jaculus jaculus	117.7561	No	Hooper & Hilali 1972 J Mamm
Lesser Fat-tailed Jerboa	Pygeretmus platyurus	167.5422	No	Randall 2007 Rodent societies book
Lesser Forest Shrew	Sylvisorex oriundus	1343.017	No	Murariu & Benedek 2005 Grig Antip
Lesser Gray-brown Musk Shrew	Crocidura silacea	505.0192	No	Murariu & Benedek 2005 Grig Antip
Lesser Grison	Galictis cuja	707.8652	No	Dalerum 2007
Lesser Hairy-footed Dunnart	Sminthopsis youngsoni	124.9267	No	Haythornwaite & Dickman 2006
Lesser Hedgehog Tenrec	Echinops telfairi	468.2966	No	Eisenberg & Gould 1967 Int Zool YB
Lesser Kudu	Tragelaphus imberbis	243.9957	No	Nowak 1999 Mammal Book
Lesser Large-headed Shrew	Paracrocidura schoutedeni	877.3638	No	Murariu & Benedek 2005 Grig Antip
Lesser Long-eared Bat	Nyctophilus geoffroyi	504.1077	No	Isaac et al. 2005
Lesser Long-tailed Shrew Tenrec	Microgale longicaudata	969.02	No	Stephenson et al. 1994 Int Zoo Yb
Lesser Mouse-deer	Tragulus kanchil	980.2165	No	Nowak 1999 Mammal Book
Lesser Mouse-tailed Bat	Rhinopoma hardwickii	327.0391	No	Qumsiyeh & Jones 1986 Mamm Sp
Lesser Naked-backed Fruit Bat	Dobsonia minor	1336.47	No	Bonaccorso 2002
Lesser Red Musk Shrew	Crocidura hirta	724.5168	No	Murariu & Benedek 2005 Grig Antip
Lesser Rock Shrew	Crocidura serezykensis	279.6944	No	Murariu & Benedek 2005 Grig Antip
Lesser Ryukyu Shrew	Crocidura watasei	1171.711	No	Murariu & Benedek 2005 Grig Antip
Lesser Sac-winged Bat	Saccopteryx leptura	1051.414	No	Yancey e tal. 1998 Mamm Sp
Lesser Sand Rat	Psammomys vexillaris	128.4574	No	Randall 2007 Rodent Societies Book
Lesser Short-nosed Fruit Bat	Cynopterus brachyotis	906.1003	No	Tan 1997

Lesser Spot-nosed Monkey	<i>Cercopithecus petaurista</i>	1156.272	No	Nowak 1999 Mammal Book
Lesser Striped Shrew	<i>Sorex bedfordiae</i>	1163.042	No	Murariu & Benedek 2005 Grig Antip
Lesser Taiwanese Shrew	<i>Chodsigoa sodalis</i>	1218.171	No	Murariu & Benedek 2005 Grig Antip
Lesser Tufted-tailed Rat	<i>Eliurus minor</i>	823.61	No	Nowak 1999 Mammal Book
Lesser White-toothed Shrew	<i>Crocidura suaveolens</i>	367.7631	No	Murariu & Benedek 2005 Grig Antip
Lesser Woolly Bat	<i>Kerivoula lanosa</i>	420.374	No	Isaac et al. 2005
Lesser Wooly Horseshoe Bat	<i>Rhinolophus sedulus</i>	1249.022	Yes	Rossiter 2012/Heller, 1993
Liberian Mongoose	<i>Liberiictis kuhni</i>	1307.313	No	Veron et al. 2004
Libyan Jird	<i>Meriones libycus</i>	186.2826	No	Randall 2007 Rodent Societies Book
Lichtenstein's Jerboa	<i>Eremodipus lichtensteini</i>	125.4607	No	Randall 2007 Rodent societies book
Lindbergh's Akodont	<i>Akodon lindberghi</i>	829.3035	No	De Conto & Cerqueira 2007
Lined Pocket Mouse	<i>Chaetodipus lineatus</i>	347.2352	No	Best 1993 Mamm sp
Linnaeus's Two-toed Sloth	<i>Choloepus didactylus</i>	1375.89	No	Rose & Gaudin 2010 Enc of Life Sciences
Lion	<i>Panthera leo</i>	819.2674	No	Dalerum 2007
Lion-tailed Macaque	<i>Macaca silenus</i>	1381.216	No	Nowak 1999 Mammal Book
Little Brown Myotis	<i>Myotis lucifugus</i>	346.7182	No	Fenton & Barclay 1980 Mamm Sp
Little Collared Fruit Bat	<i>Myonycteris torquata</i>	767.678	No	Isaac et al. 2005
Little Golden-mantled Flying Fox	<i>Pteropus pumilus</i>	1510.121	No	Reeder 2006
Little Laucha	<i>Calomys laucha</i>	475.4576	No	Laconi & Castro-Vazquez 1999 Mammalia
Little Pocket Mouse	<i>Perognathus longimembris</i>	257.4873	No	Jones 1985 J Mamm
Little Red Flying Fox	<i>Pteropus scapulatus</i>	467.1673	No	Isaac et al. 2005
Littledale's Whistling Rat	<i>Parotomys littledalei</i>	57.27543	No	Jackson 2000 J Arid Env
Llanos Long-nosed Armadillo	<i>Dasyops sabanicola</i>	1157.479	No	Rose & Gaudin 2010 Enc of Life Sciences
Long-clawed Mole Vole	<i>Prometheomys schaposchnikowi</i>	598.885	No	Nowak 1999 Mammal Book
Long-clawed Shrew	<i>Sorex unguiculatus</i>	631.5	No	Murariu & Benedek 2005 Grig Antip
Long-eared Hedgehog	<i>Hemiechinus auritus</i>	584.5	No	Nowak 1999 Mammal Book

Long-eared Jerboa	<i>Euchoreutes naso</i>	393.2854	No	Randall 2007 Rodent societies book
Long-eared Myotis	<i>Myotis evotis</i>	369.6667	No	Solick & Barclay 2007 JZ
Long-eared Scaly-tailed Flying Squirrel	<i>Idiurus macrotis</i>	1241.551	No	Julliot et al. 1998 Mammalia
Long-fingered Myotis	<i>Myotis capaccinii</i>	456.5021	No	Nowak 1999 Mammal Book
Long-footed Shrew	<i>Crocidura crenata</i>	1124.9	No	Murariu & Benedek 2005 Grig Antip
Long-footed Treeshrew	<i>Tupaia longipes</i>	995.1	No	Sorenson & Conaway 1968 J Mamm
Long-haired Akodont	<i>Abrothrix longipilis</i>	412.1759	No	Nowak 1999 Mammal Book
Long-legged Myotis	<i>Myotis volans</i>	405.2013	No	Nowak 1999 Mammal Book
Long-nosed Hociudo	<i>Oxymycterus nasutus</i>	894.9427	No	Nowak 1999 Mammal Book
Long-tailed Armored Tree-rat	<i>Makalata macrura</i>	1178.624	No	Nowak 1999 Mammal Book
Long-tailed Birch Mouse	<i>Sicista caudata</i>	514.0003	No	Nowak 1999 Mammal Book
Long-tailed Chinchilla	<i>Chinchilla lanigera</i>	179.219	No	Spotorno et al 2004 Mamm So
Long-tailed Colilargo	<i>Oligoryzomys longicaudatus</i>	558.7842	No	Nowak 1999 Mammal Book
Long-tailed Field Mouse	<i>Apodemus sylvaticus</i>	425.763	No	Wolton 1983 J Zool
Long-tailed Forest Shrew	<i>Myosorex longicaudatus</i>	592.3925	No	Murariu & Benedek 2005 Grig Antip
Long-tailed Marmot	<i>Marmota caudata</i>	472.356	pair bond	Blumstein & Armitage 1999 Oikos
Long-tailed Musk Shrew	<i>Crocidura dolichura</i>	1256.6	No	Murariu & Benedek 2005 Grig Antip
Long-tailed Singing Mouse	<i>Scotinomys xerampelinus</i>	1300.824	No	Nowak 1999 Mammal Book
Long-tailed Vole	<i>Microtus longicaudus</i>	271.1025	No	Smolen & Keller 1987 Mamm Sp
Long-tailed Wattled Bat	<i>Chalinolobus tuberculatus</i>	846.5652	No	Sedgeley 2001
Long-tailed Weasel	<i>Mustela frenata</i>	594.8115	No	Dalerum 2007
Long-winged Tomb Bat	<i>Taphozous longimanus</i>	657.6667	No	Isaac et al. 2005
Lord Derby's Scaly-tailed Squirrel	<i>Anomalurus derbianus</i>	1110.773	No	Julliot et al. 1998 Mammalia
Loria's Pogonomys	<i>Pogonomys loriae</i>	1301.458	No	Nowak 1999 Mammal Book
Los Talas Tuco-tuco	<i>Ctenomys talarum</i>	447.9626	No	Lacey & Ebensperger 2007 Rodent Societies
Louise's Spiny Mouse	<i>Acomys louisae</i>	237.3909	No	Nowak 1999 Mammal Book

Low's squirrel	Sundasciurus lowii	1443.062	No	Saiful & Nordin 2004 J Trop Ecol
Lowe's Shrew	Chodsigoa parca	1187.25	No	Murariu & Benedek 2005 Grig Antip
Lowland Paca	Cuniculus paca	393.1667	No	Nowak 1999 Mammal Book
Lowland Streaked Tenrec	Hemicentetes semispinosus	975.8543	No	Marshall & Eisenberg 1996 Mamm Sp
Lucifer Titi	Callicebus lucifer	1389.992	pair bond	Kappeler 1999 Primate Communities Book
Lucina's Shrew	Crocidura lucina	814.0987	No	Murariu & Benedek 2005 Grig Antip
Ludia's Shrew	Crocidura ludia	436.0342	No	Murariu & Benedek 2005 Grig Antip
Lukolela Praomys	Praomys lukolelae	994.7263	No	Nowak 1999 Mammal Book
Luzon Shrew	Crocidura grayi	1280.746	No	Murariu & Benedek 2005 Grig Antip
MacArthur's Shrew	Crocidura macarthuri	1054.9	No	Murariu & Benedek 2005 Grig Antip
Mackenzie's Berylmys	Berylmys mackenziei	976.6664	No	Nowak 1999 Mammal Book
MacMillan's Shrew	Crocidura macmillani	1234.683	No	Murariu & Benedek 2005 Grig Antip
Madagascan Pgmy Shrew	Suncus madagascariensis	1057.45	No	Murariu & Benedek 2005 Grig Antip
Magdalena Woodrat	Xenomys nelsoni	1008.469	No	Ceballos et al. 2002
Magellanic Long-clawed Akodont	Chelemys delfini	456.2526	No	Nowak 1999 Mammal Book
Magellanic Tuco-tuco	Ctenomys magellanicus	407.4725	No	Lacey & Ebensperger 2007 Rodent Societies
Major's Tufted-tailed Rat	Eliurus majori	832.9129	No	Sommer et al. 2001 BES
Makwassie Musk Shrew	Crocidura maquassiensis	492.2126	No	Murariu & Benedek 2005 Grig Antip
Malagasy Civet	Fossa fossana	773.1	No	Dalerum 2007
Malayan Civet	Viverra zibetha	1625.6	No	Dalerum 2007
Malayan Pgmy Shrew	Suncus malayanus	1407.186	No	Murariu & Benedek 2005 Grig Antip
Malayan Shrew	Crocidura malayana	1384.202	No	Murariu & Benedek 2005 Grig Antip
Malayan Tapir	Tapirus indicus	1423.215	No	Nowak 1999 Mammal Book
Malayan Water Shrew	Chimarrogale hantu	1393.638	No	Murariu & Benedek 2005 Grig Antip
Malenge Babirusa	Babyrousa togeanensis	1405.308	No	Clayton & Macdonald 1999
Mamfe Shrew	Crocidura virgata	1179.709	No	Murariu & Benedek 2005 Grig Antip

Manado Rousette	Rousettus bidens	1508.659	No	Isaac et al. 2005
Manchurian Hare	Lepus mandshuricus	351.2	No	Nowak 1999 Mammal Book
Mandarin Vole	Lasiopodomys mandarinus	572.4955	No	Smorkatcheva 2003 Can J Zool
Mandrill	Mandrillus sphinx	1182.865	No	Nowak 1999 Mammal Book
Maned Sloth	Bradypus torquatus	1255.05	No	Rose & Gaudin 2010 Enc of Life Sciences
Maned Wolf	Chrysocyon brachyurus	288.9806	pair bond	Dalerum 2007
Manenguba Shrew	Crocidura manengubae	1063.135	No	Murariu & Benedek 2005 Grig Antip
Manipur Berylmys	Berylmys manipulus	915.3234	No	Nowak 1999 Mammal Book
Mantled Guereza	Colobus guereza	709.7445	No	Nowak 1999 Mammal Book
Mantled Howler	Alouatta palliata	1185.404	No	Nowak 1999 Mammal Book
Manzano Mountain Cottontail	Sylvilagus cognatus	199.4095	No	Nowak 1999 Mammal Book
Marbled Cat	Pardofelis marmorata	1364.556	No	Munoz-Duran 2002 EER
Marbled Polecat	Vormela peregusna	487.0139	No	Dalerum 2007
Margay	Leopardus wiedii	822.1205	No	Munoz-Duran 2002 EER
Marianas Flying Fox	Pteropus mariannus	1472.505	No	Isaac et al. 2005
Marine Otter	Lontra felina	463.0012	No	Lariviere 1998
Maritime Shrew	Sorex maritimensis	576.5022	No	Murariu & Benedek 2005 Grig Antip
Markhor	Capra falconeri	51.50385	No	Nowak 1999 Mammal Book
Maroon Leaf-Monkey	Presbytis rubicunda	1344.103	No	Nowak 1999 Mammal Book
Marsh Deer	Blastocerus dichotomus	683.1419	No	Nowak 1999 Mammal Book
Marsh Mongoose	Atilax paludinosus	766.1633	No	Dalerum 2007
Marsh Oryzomys	Oryzomys palustris	833.4634	No	Nowak 1999 Mammal Book
Marsh Rabbit	Sylvilagus palustris	794.3	No	Nowak 1999 Mammal Book
Marsh Shrew	Sorex bendirii	532.9682	No	Murariu & Benedek 2005 Grig Antip
Martins' Tamarin	Saguinus martinsi	1406.594	pair bond	Porter 2001 Folia Primat
Masked Palm Civet	Paguma larvata	1436.492	No	Dalerum 2007

Masoala Fork-crowned Lemur	<i>Phaner furcifer</i>	1489.662	pair bond	Schuelke & Kappeler 2003 Anim Behav
Mauritanian Shrew	<i>Crocidura lusitania</i>	39.83495	No	Murariu & Benedek 2005 Grig Antip
Mauritian Tomb Bat	<i>Taphozous mauritanus</i>	1363.632	No	Dengis 1996 Mamm Sp
Maxwell's Duiker	<i>Philantomba maxwellii</i>	936.3925	No	Jarman 1974 Behav
Meadow Jumping Mouse	<i>Zapus hudsonius</i>	386.9	No	Nowak 1999 Mammal Book
Meadow Vole	<i>Microtus pennsylvanicus</i>	537.1393	No	Solomon & Getz 1997 book chapter
Medellín Small-eared Shrew	<i>Cryptotis medellinia</i>	1169.904	No	Murariu & Benedek 2005 Grig Antip
Mediterranean Horseshoe Bat	<i>Rhinolophus euryale</i>	329.2	No	Russo 2002
Mediterranean Water Shrew	<i>Neomys anomalus</i>	375.27	No	Murariu & Benedek 2005 Grig Antip
Meerkat	<i>Suricata suricatta</i>	65.51301	pair bond	Dalerum 2007
Meller's Mongoose	<i>Rhynchogale melleri</i>	811.2702	No	Dalerum 2007
Mendoza Tuco-tuco	<i>Ctenomys mendocinus</i>	258.548	No	Lacey & Ebensperger 2007 Rodent Societies
Mentawai Langur	<i>Presbytis potenziani</i>	1443.525	No	Fuentes 1996 IJP
Menzbier's Marmot	<i>Marmota menzbieri</i>	316.3164	pair bond	Blumstein & Armitage 1999 Oikos
Merida Small-eared Shrew	<i>Cryptotis meridensis</i>	1250.276	No	Murariu & Benedek 2005 Grig Antip
Merriam's Kangaroo Rat	<i>Dipodomys merriami</i>	288.9145	No	Behrends et al. 1986 Behav
Merriam's Pocket Mouse	<i>Perognathus merriami</i>	690.4463	No	Jones 1985 J Mamm
Merriam's Small-eared Shrew	<i>Cryptotis merriami</i>	1207.781	No	Murariu & Benedek 2005 Grig Antip
Mesopotamian Gerbil	<i>Gerbillus mesopotamiae</i>	66.17378	No	Randall 2007 Rodent Societies Book
Mexican Agouti	<i>Dasyprocta mexicana</i>	1139.979	pair bond	Ebertsberger & Cofre 2001 BE
Mexican Cottontail	<i>Sylvilagus cunicularius</i>	571.8	No	Nowak 1999 Mammal Book
Mexican Deermouse	<i>Peromyscus mexicanus</i>	1100.873	pair bond	Kirkland & Layne 1989 book
Mexican Fox Squirrel	<i>Sciurus nayaritensis</i>	404.6377	No	Pasch & Koprowski 2006 J Mamm
Mexican Free-tailed Bat	<i>Tadarida brasiliensis</i>	1337.422	No	Wilkins 1989 Mamm Sp
Mexican Harvest Mouse	<i>Reithrodontomys mexicanus</i>	1099.932	No	Nowak 1999 Mammal Book
Mexican Long-tailed Shrew	<i>Sorex oreopolus</i>	686.9358	No	Murariu & Benedek 2005 Grig Antip

Mexican Shrew	<i>Megasorex gigas</i>	636.3	No	Murariu & Benedek 2005 Grig Antip
Mexican Small-eared Shrew	<i>Cryptotis mexicana</i>	1189.426	No	Murariu & Benedek 2005 Grig Antip
Mexican Woodrat	<i>Neotoma mexicana</i>	480.5243	No	Nowak 1999 Mammal Book
Miahuatlán Cotton Rat	<i>Sigmodon planifrons</i>	1246.065	No	Nowak 1999 Mammal Book
Michoacan Pocket Gopher.	<i>Zygoeomys trichopus</i>	832.5627	No	Goldman 1939 J Mamm
Midday Jird	<i>Meriones meridianus</i>	398.13	No	Randall 2007 Rodent Societies Book
Middle East Blind Mole Rat	<i>Spalax ehrenbergi</i>	247.2736	No	Nevo 2007 Rodent Societies book
Miller's Mastiff Bat	<i>Molossus pretiosus</i>	856.7044	No	Dechmann et al. 2010
Millet's Shrew	<i>Sorex coronatus</i>	612.4028	No	Murariu & Benedek 2005 Grig Antip
Milne-Edwards' Macaque	<i>Macaca thibetana</i>	787.1918	No	Nowak 1999 Mammal Book
Milne-Edwards's Sifaka	<i>Propithecus edwardsi</i>	1277.471	No	Pochron et al. 2004
Milne-Edwards's Sportive Lemur	<i>Lepilemur edwardsi</i>	701.881	No	Nowak 1999 Mammal Book
Mindanao Shrew	<i>Crocidura beatus</i>	1387.586	No	Murariu & Benedek 2005 Grig Antip
Mindoro Shrew	<i>Crocidura mindorus</i>	1182.756	No	Murariu & Benedek 2005 Grig Antip
Misonne's Praomys	<i>Praomys misonnei</i>	1322.849	No	Nowak 1999 Mammal Book
Moholi Bushbaby	<i>Galago moholi</i>	816.9092	No	Bearder et al. 2003 Folia Primat
Mole-like Rice Tenrec	<i>Oryzorictes hova</i>	1265.16	No	Stephenson et al. 1994 Int Zoo Yb
Molina's Akodont	<i>Akodon molinae</i>	152.6071	No	Merani & Lizarralde 1980 Lab Animals
Mona Monkey	<i>Cercopithecus mona</i>	1300.74	No	Nowak 1999 Mammal Book
Mongolian Five-toed Jerboa	<i>Allactaga sibirica</i>	276.2144	No	Randall 2007 Rodent societies book
Mongolian Gazelle	<i>Procapra gutturosa</i>	191.3424	No	Nowak 1999 Mammal Book
Mongolian Jird	<i>Meriones unguiculatus</i>	388.0825	No	Randall 2007 Rodent Societies Book
Mongolian Three-toed Jerboa	<i>Stylodipus sungorus</i>	151.3937	No	Randall 2007 Rodent societies book
Mongoose Lemur	<i>Eulemur mongoz</i>	1438.488	pair bond	Curtis & Zaramody 1999
Montane Akodont	<i>Akodon montensis</i>	929.4115	No	Puettker PhD Thesis
Montane Bamboo Rat	<i>Dactylomys peruanus</i>	1050.538	No	Nowak 1999 Mammal Book

Montane Mouse Shrew	<i>Myosorex blarina</i>	1074.56	No	Murariu & Benedek 2005 Grig Antip
Montane Vole	<i>Microtus montanus</i>	370.2388	No	Solomon & Getz 1997 book chapter
Montane Water Vole	<i>Arvicola scherman</i>	432.625	pair bond	Solomon & Getz 1997 book chapter
Montane White-toothed Shrew	<i>Crocidura montis</i>	499.3904	No	Murariu & Benedek 2005 Grig Antip
Moojen's Atlantic Spiny-rat	<i>Trinomys moojeni</i>	715.4304	No	Attias et al. 2009 Zoologia
Moon Forest Shrew	<i>Sylvisorex lunaris</i>	817.9327	No	Murariu & Benedek 2005 Grig Antip
Moonrat	<i>Echinosorex gymnura</i>	1477.052	No	Gould 1978
Moonshine Shrew	<i>Crocidura luna</i>	678.2196	No	Murariu & Benedek 2005 Grig Antip
Moor Macaque	<i>Macaca maura</i>	1488.712	No	Nowak 1999 Mammal Book
Moose	<i>Alces americanus</i>	368.3148	No	Nowak 1999 Mammal Book
Moroccan Gerbil	<i>Gerbillus hesperinus</i>	377.9129	No	Randall 2007 Rodent Societies Book
Moroccan Jird	<i>Meriones grandis</i>	350.2167	No	Randall 2007 Rodent Societies Book
Mossy Forest Shrew	<i>Crocidura musseri</i>	1400.176	No	Murariu & Benedek 2005 Grig Antip
Mottled Tuco-tuco	<i>Ctenomys latro</i>	529.3909	No	Lacey & Ebensperger 2007 Rodent Societies
Mottle-faced Tamarin	<i>Saguinus inustus</i>	1370.256	pair bond	Porter 2001 Folia Primat
Mount Cameroon Brush-furred Rat	<i>Lophuromys roseveari</i>	1144.704	No	Nowak 1999 Mammal Book
Mount Lefo Brush-furred Rat	<i>Lophuromys eisentrauti</i>	986.0105	No	Nowak 1999 Mammal Book
Mount Oku Brush-furred Rat	<i>Lophuromys dieterleni</i>	1088.526	No	Nowak 1999 Mammal Book
Mountain Anoa	<i>Bubalus quarlesi</i>	1466.433	No	Nowak 1999 Mammal Book
Mountain Brushtail Possum	<i>Trichosurus cunninghami</i>	696.4891	Yes	Martin 2007, Martin 2005
Mountain Cottontail	<i>Sylvilagus nuttallii</i>	483.1472	No	Nowak 1999 Mammal Book
Mountain Degu	<i>Octodontomys gliroides</i>	477.7947	No	Ebensperger et al. 2008 J Arid Env
Mountain Gazelle	<i>Gazella gazella</i>	154.4093	No	Dunham 1999 J Arid Env
Mountain Goat	<i>Oreamnos americanus</i>	428.5652	No	Nowak 1999 Mammal Book
Mountain Hare	<i>Lepus timidus</i>	504.2966	No	Nowak 1999 Mammal Book
Mountain Paca	<i>Cuniculus taczanowskii</i>	1181.406	No	Nowak 1999 Mammal Book

Mountain Pocket Gopher.	<i>Thomomys monticola</i>	483.5798	No	Nowak 1999 Mammal Book
Mountain Reedbuck	<i>Redunca fulvorufula</i>	616.903	No	Waser & Jones 1983 Quart Rev Biol
Mountain Tapir	<i>Tapirus pinchaque</i>	1221.714	No	Nowak 1999 Mammal Book
Mountain Treeshrew	<i>Tupaia montana</i>	1388.816	No	Sorenson & Conaway 1968 J Mamm
Mountain Weasel	<i>Mustela altaica</i>	553.3373	No	Dalerum 2007
Mountain Zebra	<i>Equus zebra</i>	471.4927	No	Nowak 1999 Mammal Book
Mouse-eared Myotis	<i>Myotis myotis</i>	302.1	No	Nowak 1999 Mammal Book
Mouse-tailed Atlantic Spiny-rat	<i>Trinomys myosuros</i>	906	No	Attias et al. 2009 Zoologia
Moustached Guenon	<i>Cercopithecus cephus</i>	1065.6	No	Gautier-Hion 1980 J Anim Ecol
Moustached Tamarin	<i>Saguinus mystax</i>	1392.267	Yes	Porter 2001 Folia Primat/Huck 2005
Mt Caparaó Hociudo	<i>Oxymycterus caparaoe</i>	1099.349	No	Nowak 1999 Mammal Book
Mt. Cameroon Forest Shrew	<i>Sylvisorex morio</i>	1188.328	No	Murariu & Benedek 2005 Grig Antip
Mt. d'Ambre Fork-crowned Lemur	<i>Phaner electromontis</i>	1082.495	No	Schuelke & Kappeler 2003 Anim Behav
Mt. Kenya Mole Shrew	<i>Surdisorex polulus</i>	1177.124	No	Murariu & Benedek 2005 Grig Antip
Mt. Lyell Shrew	<i>Sorex lyelli</i>	298.5826	No	Murariu & Benedek 2005 Grig Antip
Mule Deer	<i>Odocoileus hemionus</i>	520.524	No	Nowak 1999 Mammal Book
Mullah Spiny Mouse	<i>Acomys mullah</i>	142.7194	No	Nowak 1999 Mammal Book
Müller's Bornean Gibbon	<i>Hylobates muelleri</i>	1319.953	pair bond	Dallmann & Geismann 2001
Muskox	<i>Ovibos moschatus</i>	350.0646	No	Nowak 1999 Mammal Book
Mutable Sun Squirrel	<i>Heliosciurus mutabilis</i>	673.3	No	Apps 2000 Field Guide to SA Mammals
Mzab Gundi	<i>Massoutiera mzabi</i>	13.76159	No	Nutt 2005 J Mamm
Naked Mole-rat	<i>Heterocephalus glaber</i>	102.3645	pair bond	Nowak 1999 Mammal Book
Naked-tail Shrew	<i>Crocidura littoralis</i>	966.0395	No	Murariu & Benedek 2005 Grig Antip
Namaqua Dune Mole-rat	<i>Bathyergus janetta</i>	195.2982	No	Nowak 1999 Mammal Book
Nancy Ma's Night Monkey	<i>Aotus nancymae</i>	1388.281	pair bond	Nowak 1999 Mammal Book
Narrow-faced Kangaroo Rat	<i>Dipodomys venustus</i>	652.7808	No	Jones 1985 J Mamm

Narrow-nosed Harvest Mouse	<i>Reithrodontomys tenuirostris</i>	1119.285	No	Nowak 1999 Mammal Book
Narrow-nosed Planigale	<i>Planigale tenuirostris</i>	168.4261	No	Read 1984 Wild Res
Narrow-striped Mongoose	<i>Mungotictis decemlineata</i>	729.5282	pair bond	Dalerum 2007
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	447.3019	No	Isaac et al. 2005
Natterer's Myotis	<i>Myotis nattereri</i>	463.827	No	Isaac et al. 2005
Natuna Island Surili	<i>Presbytis natunae</i>	1459.003	No	Nowak 1999 Mammal Book
Nearctic Brown Lemming	<i>Lemmus trimucronatus</i>	265.9531	No	Huck et al. 1979 Hormones & Behavior
Nearctic Collared Lemming	<i>Dicrostonyx groenlandicus</i>	310.5422	No	Nowak 1999 Mammal Book
Negev Shrew	<i>Crocidura ramona</i>	169.3125	No	Murariu & Benedek 2005 Grig Antip
Negros Shrew	<i>Crocidura negrina</i>	1379.323	No	Murariu & Benedek 2005 Grig Antip
Nehring's Blind Mole Rat	<i>Spalax nehringi</i>	424.8486	No	Nevo 2007 Rodent Societies book
Nelson's Antelope Squirrel	<i>Ammospermophilus nelsoni</i>	214.7259	No	Best et al. 1990 Mammal Sp
Nelson's Collared Lemming	<i>Dicrostonyx nelsoni</i>	423.095	No	Nowak 1999 Mammal Book
Nelson's Kangaroo Rat	<i>Dipodomys nelsoni</i>	183.6657	No	Jones 1985 J Mamm
Nelson's Pocket Mouse	<i>Chaetodipus nelsoni</i>	497.7055	No	Best 1993 Mamm sp
Nelson's Woodrat	<i>Neotoma nelsoni</i>	740.0009	No	Nowak 1999 Mammal Book
Nelson's Small-eared Shrew	<i>Cryptotis nelsoni</i>	1409.945	No	Murariu & Benedek 2005 Grig Antip
Neotropical Otter	<i>Lontra longicaudis</i>	660.95	No	Lariviere 1999
Nepal Gray Langur	<i>Semnopithecus schistaceus</i>	372.8614	No	Nowak 1999 Mammal Book
Neumann's Arvicanthis	<i>Arvicanthis neumanni</i>	386.7998	No	Nowak 1999 Mammal Book
New England Cottontail	<i>Sylvilagus transitionalis</i>	664.2125	No	Nowak 1999 Mammal Book
New Mexico Shrew	<i>Sorex neomexicanus</i>	194.2371	No	Murariu & Benedek 2005 Grig Antip
New Zealand Lesser Short-tailed Bat	<i>Mystacina tuberculata</i>	614.844	No	Daniel 1979
Nicaraguan Harvest Mouse	<i>Reithrodontomys paradoxus</i>	1298.26	No	Nowak 1999 Mammal Book
Nicaraguan Oryzomys	<i>Oryzomys dimidiatus</i>	1391.621	No	Nowak 1999 Mammal Book
Nicaraguan Pocket Gopher.	<i>Orthogeomys matagalpae</i>	1433.223	No	Goldman 1939 J Mamm

Nicaraguan Woodrat	<i>Neotoma chrysomelas</i>	1195.658	No	Nowak 1999 Mammal Book
Nicobar Shrew	<i>Crocidura nicobarica</i>	1417.452	No	Murariu & Benedek 2005 Grig Antip
Nicobar Treeshrew	<i>Tupaia nicobarica</i>	1476.4	No	Nowak 1999 Mammal Book
Nigerian Gerbil	<i>Gerbillus nigeriae</i>	74.48066	No	Randall 2007 Rodent Societies Book
Nigerian Shrew	<i>Crocidura nigeriae</i>	1141.933	No	Murariu & Benedek 2005 Grig Antip
Nilgai	<i>Boselaphus tragocamelus</i>	174.4678	No	Nowak 1999 Mammal Book
Nilgiri Langur	<i>Trachypithecus johnii</i>	1178.23	No	Kappeler 1999 Primate Communities Book
Nimba Shrew	<i>Crocidura nimbae</i>	1323.942	No	Murariu & Benedek 2005 Grig Antip
Nine-banded Armadillo	<i>Dasypus novemcinctus</i>	688.4299	No	McBee & Baker 1982 Mamm Sp
Niobe's Shrew	<i>Crocidura niobe</i>	1090.752	No	Murariu & Benedek 2005 Grig Antip
Noble Calomyscus	<i>Calomyscus grandis</i>	474.5214	No	Nowak 1999 Mammal Book
Noctule	<i>Nyctalus noctula</i>	458.0161	No	Kozhurina 1993 Ethology
North African Elephant Shrew	<i>Elephantulus rozeti</i>	201.4743	pair bond	Rathbun & Rathbun 2006 J Zool
North African Hedgehog	<i>Atelerix algirus</i>	201.2854	No	Nowak 1999 Mammal Book
North American Deer mouse	<i>Peromyscus maniculatus</i>	332.238	No	Solomon & Getz 1997 book chapter
North American Least Shrew	<i>Cryptotis parva</i>	749.5312	No	Murariu & Benedek 2005 Grig Antip
North American River Otter	<i>Lontra canadensis</i>	348.0098	No	Lariviere & Walton 1998
North American Water Vole	<i>Microtus richardsoni</i>	405.068	No	Ludwig 1984 Mamm Sp
North China Zokor	<i>Myospalax psilurus</i>	398.2	No	Burda et al. 2000
North Moluccan Flying Fox	<i>Pteropus caniceps</i>	1167.5	No	Isaac et al. 2005
North Sulawesi Babirusa	<i>Babyrousa celebensis</i>	1429.961	No	Clayton & Macdonald 1999
Northeast African Spiny Mouse	<i>Acomys cahirinus</i>	166.1546	No	Nowak 1999 Mammal Book
Northern Bat	<i>Eptesicus nilssonii</i>	498.2747	No	Rydell 1993 Mamm Sp
Northern Birch Mouse	<i>Sicista betulina</i>	403.8046	No	Nowak 1999 Mammal Book
Northern Bog Lemming	<i>Synaptomys borealis</i>	325.7421	No	Nowak 1999 Mammal Book
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	389.6654	No	Wells-Gosling & Heaney 1984 Mamm Sp

Northern Ghost Bat	<i>Diclidurus albus</i>	1052.856	No	Ceballos & Medellin 1988
Northern Giant Pouched Rat	<i>Cricetomys gambianus</i>	417.7	No	Nowak 1999 Mammal Book
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>	332.297	pair bond	McCarty 1978 Mamm Sp
Northern Greater Galago	<i>Otolemur garnettii</i>	1358.372	No	Nowak 1999 Mammal Book
Northern Marsupial Mole	<i>Notoryctes caurinus</i>	144.6	No	Benshemesh 2003
Northern Mole Vole	<i>Ellobius talpinus</i>	275.4886	pair bond	Nowak 1999 Mammal Book
Northern Mountain Viscacha	<i>Lagidium peruanum</i>	575.2166	No	Nowak 1999 Mammal Book
Northern Muriqui	<i>Brachyteles hypoxanthus</i>	1032.12	No	Strier et al. 2002 Behav
Northern Myotis	<i>Myotis septentrionalis</i>	474.9427	No	Garroway & Broders 2007 CJZ
Northern Needle-clawed Bushbaby	<i>Euoticus pallidus</i>	1164.614	No	Nowak 1999 Mammal Book
Northern Pig-tailed Macaque	<i>Macaca leonina</i>	1414.348	No	Nowak 1999 Mammal Book
Northern Pika	<i>Ochotona hyperborea</i>	288.8321	No	Gliwicz et al. 2005 J Zool
Northern Plains Gray Langur	<i>Semnopithecus entellus</i>	715.9889	No	Nowak 1999 Mammal Book
Northern Pocket Gopher.	<i>Thomomys talpoides</i>	422.3619	No	Nowak 1999 Mammal Book
Northern Pudu	<i>Pudu mephistophiles</i>	1071.629	No	Nowak 1999 Mammal Book
Northern Pygmy Mouse	<i>Baiomys taylori</i>	638.5067	pair bond	Solomon & Getz 1997 book chapter
Northern Quoll	<i>Dasyurus hallucatus</i>	751.6844	No	Oakwood 2002 J Zool
Northern Red-backed Vole	<i>Myodes rutilus</i>	382.8383	No	Nowak 1999 Mammal Book
Northern Short-tailed Shrew	<i>Blarina brevicauda</i>	644.6388	No	Murariu & Benedek 2005 Grig Antip
Northern Smooth-Tailed Treeshrew	<i>Dendrogale murina</i>	1281.16	No	Timmins et al. 2003 Mamm Rev
Northern Sportive Lemur	<i>Lepilemur septentrionalis</i>	1092.092	No	Nowak 1999 Mammal Book
Northern Tamandua	<i>Tamandua mexicana</i>	694.1872	No	Rose & Gaudin 2010 Enc of Life Sciences
Northern Three-toed Jerboa	<i>Dipus sagitta</i>	205.6277	No	Randall 2007 Rodent societies book
Northern Treeshrew	<i>Tupaia belangeri</i>	985.975	No	Nowak 1999 Mammal Book
Northwestern African Fat Mouse	<i>Steatomys caurinus</i>	459.7747	No	Nowak 1999 Mammal Book
Norway Lemming	<i>Lemmus lemmus</i>	381.1395	No	Elton 1924 J Exp Biol

Nubian IbeX	<i>Capra nubiana</i>	162.7558	No	Greenberg-Cohen et al. 1994 Ethol
Numbat	<i>Myrmecobius fasciatus</i>	362.5711	No	Pavey 2006 NTG Species Report
Nyala	<i>Tragelaphus angasii</i>	759.1852	No	Brashares et al. 2000 BE
Nyiro Shrew	<i>Crocidura macowi</i>	703.2043	No	Murariu & Benedek 2005 Grig Antip
Oaxacan Broad-clawed Shrew	<i>Cryptotis peregrina</i>	978.3837	No	Murariu & Benedek 2005 Grig Antip
Oaxacan Pocket Gopher.	<i>Orthogeomys cuniculus</i>	1041.428	No	Goldman 1939 J Mamm
Occidental Gerbil	<i>Gerbillus occiduus</i>	244.9386	No	Randall 2007 Rodent Societies Book
Ocelot	<i>Leopardus pardalis</i>	675.9333	No	Dalerum 2007
Ogilby's Duiker	<i>Cephalophus ogilbyi</i>	1240.982	No	Nowak 1999 Mammal Book
Ogilvie Mountains Collared Lemming	<i>Dicrostonyx nunatakensis</i>	340.3443	No	Nowak 1999 Mammal Book
Okapi	<i>Okapia johnstoni</i>	1068.382	No	Nowak 1999 Mammal Book
Oku Mouse Shrew	<i>Myosorex okuensis</i>	997.3413	No	Murariu & Benedek 2005 Grig Antip
Oldfield Deermouse	<i>Peromyscus polionotus</i>	851.684	Yes	Kirkland & Layne 1989/ Foltz, 1981
Olive Baboon	<i>Papio anubis</i>	18.2425	No	Nowak 1999 Mammal Book
Olive Colobus	<i>Procolobus verus</i>	1297.236	No	Nowak 1999 Mammal Book
Olive-backed Pocket Mouse	<i>Perognathus fasciatus</i>	244.1435	No	Jones 1985 J Mamm
Olive-colored Akodont	<i>Abrothrix olivaceus</i>	271.0304	No	Lozada et al. 1996 Mamm Sp
Ollala Brothers' Titi	<i>Callicebus olallae</i>	998.9734	pair bond	Kappeler 1999 Primate Communities
Olympic Marmot	<i>Marmota olympus</i>	542.3358	No	Allaine 2000
Omiteme Cottontail	<i>Sylvilagus insonus</i>	1061.73	No	Nowak 1999 Mammal Book
Onager	<i>Equus hemionus</i>	222.4972	No	Nowak 1999 Mammal Book
Oncilla	<i>Leopardus tigrinus</i>	817.9423	No	Dalerum 2007
Orange-spined Hairy Dwarf Porcupine	<i>Sphiggurus villosus</i>	836.364	No	Passamani 2010 Mamm Biol
Ord's Kangaroo Rat	<i>Dipodomys ordii</i>	311.9928	No	Langford 1983 Southw Nat
Oribi	<i>Ourebia ourebi</i>	435.9256	pair bond	Nowak 1999 Mammal Book
Oriental Shrew	<i>Crocidura orientalis</i>	1395.069	No	Murariu & Benedek 2005 Grig Antip

Orizaba Long-tailed Shrew	<i>Sorex orizabae</i>	838.7347	No	Murariu & Benedek 2005 Grig Antip
Ornate Flying Fox	<i>Pteropus ornatus</i>	1228.331	No	Isaac et al. 2005
Ornate Shrew	<i>Sorex ornatus</i>	329.5586	No	Murariu & Benedek 2005 Grig Antip
Ornate Titi	<i>Callicebus ornatus</i>	1351.604	pair bond	Kappeler 1999 Primate Communities Book
Pacarana	<i>Dinomys branickii</i>	1056.449	pair bond	White & Alberico 1992 Mamm Sp
Pacific Flying Fox	<i>Pteropus tonganus</i>	1502.034	No	Miller & Wilson 1997 Mamm Sp
Pacific Jumping Mouse	<i>Zapus trinotatus</i>	404.8	No	Nowak 1999 Mammal Book
Pacific Shrew	<i>Sorex pacificus</i>	329.3643	No	Murariu & Benedek 2005 Grig Antip
Pagai Island Macaque	<i>Macaca pagensis</i>	1418.827	No	Nowak 1999 Mammal Book
Painted Spiny Pocket Mouse	<i>Liomys pictus</i>	957.6623	No	McGhee & Genoways 1978 Mamm Sp
Painted Treeshrew	<i>Tupaia picta</i>	1401.669	No	Nowak 1999 Mammal Book
Painted Woolly Bat	<i>Kerivoula picta</i>	888.9017	No	Isaac et al. 2005
Pakistan Calomyscus	<i>Calomyscus baluchi</i>	85.0471	No	Nowak 1999 Mammal Book
Palawan Shrew	<i>Crocidura palawanensis</i>	1448.135	No	Murariu & Benedek 2005 Grig Antip
Palawan Treeshrew	<i>Tupaia palawanensis</i>	1433.079	No	Nowak 1999 Mammal Book
Pale Fork-crowned Lemur	<i>Phaner pallescens</i>	735.4777	No	Schuelke & Kappeler 2003 Anim Behav
Pale Gerbil	<i>Gerbillus perpallidus</i>	251.9904	No	Randall 2007 Rodent Societies Book
Pale Giant Squirrel	<i>Ratufa affinis</i>	1145.1	No	Dobroruka 1975 Int Zoo Yb
Pale Gray Shrew	<i>Crocidura pergrisea</i>	435.8461	No	Murariu & Benedek 2005 Grig Antip
Pale Kangaroo Mouse	<i>Microdipodops pallidus</i>	145.74	No	Jones 1985 J Mamm
Pale Spear-nosed Bat	<i>Phyllostomus discolor</i>	1068.712	No	Wittekind 2005
Paelearctic Collared Lemming	<i>Dicrostonyx torquatus</i>	267.3569	No	Nowak 1999 Mammal Book
Pale-throated Sloth	<i>Bradypus tridactylus</i>	1394.601	No	Rose & Gaudin 2010 Enc of Life Sciences
Pallas's Pika	<i>Ochotona pallasii</i>	161.8309	No	Nowak 1999 Mammal Book
Pallas's Squirrel	<i>Callosciurus erythraeus</i>	852.7168	No	Tamura et al. 1988 J Mamm
Pallas's Long-tongued Bat	<i>Glossophaga soricina</i>	679.3475	No	Alvarez et al. 1991 Mamm Sp

Pallas's Mastiff Bat	Molossus molossus	1302.93	No	Dechmann et al. 2010
Pallas's Tube-nosed Fruit Bat	Nyctimene cephalotes	1476.666	No	Isaac et al. 2005
Pallid Bat	Antrozous pallidus	467.9572	No	Lewis 1994 Am Midl Nat
Pallid Delomys	Delomys sublineatus	1172.673	No	Puettker PhD Thesis
Pallid Pygmy Jerboa	Salpingotus pallidus	153.6806	No	Randall 2007 Rodent societies book
Palmer's Chipmunk	Tamias palmeri	133.4333	No	Best 1993 Mammal Sp
Pampas Deer	Ozotoceros bezoarticus	623.2127	No	Nowak 1999 Mammal Book
Panamanian Spiny Pocket Mouse	Liomys adpersus	1250.003	No	Gonzales et al. 2004 Mamm Sp
Panamint Kangaroo Rat	Dipodomys panamintinus	214.9859	No	Farrell 1978 J Mamm
Papillose Woolly Bat	Kerivoula papillosa	1538.492	No	Isaac et al. 2005
Paraguayan Hociudo	Oxymycterus delator	868.6422	No	Nowak 1999 Mammal Book
Paramushir Shrew	Sorex leucogaster	480.6357	No	Murariu & Benedek 2005 Grig Antip
Pariante's Fork-crowned Lemur	Phaner parienti	1477.815	No	Schuelke & Kappeler 2003 Anim Behav
Particolored Bat	Vespertilio murinus	565.761	No	Rydell & Baagoe 1994 Mamm Sp
Patagonian Colilargo	Oligoryzomys magellanicus	405.8844	No	Nowak 1999 Mammal Book
Patagonian Mara	Dolichotis patagonum	160.9273	No	Ebertsberger & Cofre 2001 BE
Patas Monkey	Erythrocebus patas	737.6922	No	Pruetz & Isbell 2000
Paucident Planigale	Planigale gilesi	100.1762	No	Read 1984 Wild Res
Pearson's Tuco-tuco	Ctenomys pearsoni	652.3764	No	Lacey & Ebensperger 2007 Rodent Societies
Pearson's Long-clawed Shrew	Solisorex pearsoni	1397.65	No	Murariu & Benedek 2005 Grig Antip
Peleng Tarsier	Tarsius pelengensis	1515.8	No	Nowak 1999 Mammal Book
Pel's Pouched Bat	Saccolaimus peli	1141.858	No	Isaac et al. 2005
Peninsular Shrew	Crocidura negligens	1412.807	No	Murariu & Benedek 2005 Grig Antip
Percival's Spiny Mouse	Acomys percivali	523.1765	No	Nowak 1999 Mammal Book
Perrier's Sifaka	Propithecus perrieri	1109.72	No	Richard 1974 Folia Primat
Persian Jird	Meriones persicus	285.9939	No	Randall 2007 Rodent Societies Book

Peruvian Armored Tree-rat	Makalata rhipidura	1396.161	No	Nowak 1999 Mammal Book
Peruvian Cotton Rat	Sigmodon peruanus	771.887	No	Nowak 1999 Mammal Book
Peruvian Night Monkey	Aotus miconax	1187.66	pair bond	Nowak 1999 Mammal Book
Peruvian Pericote	Phyllotis amicus	474.0048	No	Ramirez et al. 2002 Rev Chil Hist nat
Peruvian Small-eared Shrew	Cryptotis peruviansis	1183.029	No	Murariu & Benedek 2005 Grig Antip
Peruvian Spider Monkey	Ateles chamek	1349.865	No	Nowak 1999 Mammal Book
Peruvian Tuco-tuco	Ctenomys peruanus	532.1383	No	Lacey & Ebensperger 2007 Rodent Societies
Peters' Duiker	Cephalophus callipygus	1103.8	No	Nowak 1999 Mammal Book
Peters' Mouse Lemur	Microcebus myoxinus	749.4954	No	Schwab 2000 AJP
Peters's Ghost-faced Bat	Mormoops megalophylla	1192.219	No	Reszutek & Cameron 1993 Mamm Sp
Peters's Lesser Epauletted Fruit Bat	Micropteropus pusillus	1133.55	No	Isaac et al. 2005
Peters's Musk Shrew	Crocidura gracilipes	967.6561	No	Murariu & Benedek 2005 Grig Antip
Petter's Praomys	Praomys petteri	1158.538	No	Nowak 1999 Mammal Book
Petter's Tateril	Taterillus petteri	7.743333	No	Nowak 1999 Mammal Book
Petter's Tufted-tailed Rat	Eliurus petteri	1451.583	No	Nowak 1999 Mammal Book
Phayre's Leaf-monkey	Trachypithecus phayrei	1053.847	No	Kappeler 1999 Primate Communities Book
Philippine Mouse-deer	Tragulus nigricans	1533.683	No	Nowak 1999 Mammal Book
Philippine Pangolin	Manis culionensis	1382.599	No	Wilson 1994 Int Zool Yb
Philippine Tarsier	Tarsius syrichta	1099.7	Yes	Nowak 1999/ Driller et al., 2009
Phillips' Small-eared Shrew	Cryptotis phillipsii	1176.518	No	Murariu & Benedek 2005 Grig Antip
Phillips's Kangaroo Rat	Dipodomys phillipsii	503.8762	No	Jones 1985 J Mamm
Phillips's Srilankamys	Srilankamys ohiensis	1413.5	No	MR Wijesinghe IUCN 2006
Pichi	Zaedyus pichiy	265.1867	No	Estecondo et al. 2005 In J Morph
Piebald Shrew	Diplomesodon pulchellum	145.6425	No	Murariu & Benedek 2005 Grig Antip
Pied Tamarin	Saguinus bicolor	1377.135	pair bond	Porter 2001 Folia Primat
Pilar Tuco-tuco	Ctenomys pilarensis	484.1872	No	Lacey & Ebensperger 2007 Rodent Societies

Pileated Gibbon	<i>Hylobates pileatus</i>	1231.973	pair bond	Dallmann & Geismann 2001
Pink Fairy Armadillo	<i>Chlamyphorus truncatus</i>	121.5916	No	Nowak 1999 Mammal Book
Pitman's Shrew	<i>Crocidura pitmani</i>	794.4674	No	Murariu & Benedek 2005 Grig Antip
Plains Harvest Mouse	<i>Reithrodontomys montanus</i>	615.5497	No	Nowak 1999 Mammal Book
Plains Pocket Gopher.	<i>Geomys bursarius</i>	518.1854	No	Nowak 1999 Mammal Book
Plains Pocket Mouse	<i>Perognathus flavescens</i>	538.438	No	Jones 1985 J Mamm
Plains Pseudomys	<i>Pseudomys australis</i>	68.78853	No	Nowak 1999 Mammal Book
Plantain Squirrel	<i>Callosciurus notatus</i>	1369.974	No	Tamura 1993 J Mamm
Plateau Deermouse	<i>Peromyscus melanophrys</i>	866.3275	No	Kirkland & Layne 1989 book
Plateau Pika	<i>Ochotona curzoniae</i>	260.9	Yes	Nowak 1999/ Yin et al., 2009
Platypus	<i>Ornithorhynchus anatinus</i>	551.8	No	Rismiller & McKelvey 2000 J Mamm
Pleasant Gerbil	<i>Gerbillus amoenus</i>	70.8288	No	Randall 2007 Rodent Societies Book
Podolsk Blind Mole Rat	<i>Spalax zemni</i>	427.1767	No	Nevo 2007 Rodent Societies book
Polar Bear	<i>Ursus maritimus</i>	330.3799	No	Dalerum 2007
Polia's Shrew	<i>Crocidura polia</i>	1314.883	No	Murariu & Benedek 2005 Grig Antip
Portenko's Shrew	<i>Sorex portenkoi</i>	306.0651	No	Murariu & Benedek 2005 Grig Antip
Porteous's Tuco-tuco	<i>Ctenomys porteousi</i>	362.0095	No	Lacey & Ebensperger 2007 Rodent Societies
Porter's Rock Rat	<i>Aconaemys porteri</i>	651.9691	No	Lacey & Ebensperger 2007 Rodent Societies
Potto	<i>Perodicticus potto</i>	995.8708	No	Nowak 1999 Mammal Book
Pousargues African Fat Mouse	<i>Steatomys opimus</i>	468.42	No	Nowak 1999 Mammal Book
Prairie Shrew	<i>Sorex haydeni</i>	507.4114	No	Murariu & Benedek 2005 Grig Antip
Prairie Vole	<i>Microtus ochrogaster</i>	494.2837	pair bond	Solomon & Getz 1997 book chapter
Preble's Shrew	<i>Sorex preblei</i>	366.1044	No	Murariu & Benedek 2005 Grig Antip
Preuss's Monkey	<i>Cercopithecus preussi</i>	1243.359	No	Nowak 1999 Mammal Book
Pribilof Island Shrew	<i>Sorex pribilofensis</i>	364.3496	No	Murariu & Benedek 2005 Grig Antip
Prince Bernhard's Titi	<i>Callicebus bernhardi</i>	1396.784	pair bond	Kappeler 1999 Primate Communities Book

Principal Gerbil	<i>Gerbillus principulus</i>	26.20624	No	Randall 2007 Rodent Societies Book
Proboscis Bat	<i>Rhynchonycteris naso</i>	1134.527	No	Isaac et al. 2005
Proboscis Monkey	<i>Nasalis larvatus</i>	1319.974	No	Nowak 1999 Mammal Book
Pronghorn	<i>Antilocapra americana</i>	314.2244	No	Nowak 1999 Mammal Book
Przewalski's Gazelle	<i>Procapra przewalskii</i>	331.2948	No	Nowak 1999 Mammal Book
Puhoat Muntjac	<i>Muntiacus puhoatensis</i>	1229.673	No	Nowak 1999 Mammal Book
Pundt's Tuco-tuco	<i>Ctenomys pundti</i>	432.3005	No	Lacey & Ebensperger 2007 Rodent Societies
Puntilla Tuco-tuco	<i>Ctenomys coludo</i>	421.8825	No	Lacey & Ebensperger 2007 Rodent Societies
Purple-faced Langur	<i>Trachypithecus vetulus</i>	1408.278	No	Kappeler 1999 Primate Communities Book
Pygmy Brown-toothed Shrew	<i>Chodsigoa parva</i>	549.8624	No	Murariu & Benedek 2005 Grig Antip
Pygmy Gerbil	<i>Gerbillus henleyi</i>	125.3059	No	Randall 2007 Rodent Societies Book
Pygmy Rabbit	<i>Brachylagus idahoensis</i>	237.912	No	Nowak 1999 Mammal Book
Pygmy Slow Loris	<i>Nycticebus pygmaeus</i>	950.4839	No	Wiens 2002 PhD Thesis
Pygmy Spotted Skunk	<i>Spilogale pygmaea</i>	1106.3	No	Medellin et al. 1998
Pygmy Tarsier	<i>Tarsius pumilus</i>	1426.56	No	Nowak 1999 Mammal Book
Pygmy Three-toed Sloth	<i>Bradypus pygmaeus</i>	1206.4	No	Rose & Gaudin 2010 Enc of Life Sciences
Pygmy Treeshrew	<i>Tupaia minor</i>	1361.978	No	Sorenson & Conaway 1968 J Mamm
Pyrenean Chamois	<i>Rupicapra pyrenaica</i>	579.3227	No	Boschi & Nievergelt 2003 Mamm Biol
Pyrenean Desman	<i>Galemys pyrenaicus</i>	579.4659	No	Nowak 1999 Mammal Book
Quaestor Hociudo	<i>Oxymycterus quaestor</i>	717.1521	No	Nowak 1999 Mammal Book
Quechuan Hociudo	<i>Oxymycterus hucucha</i>	1194.043	No	Nowak 1999 Mammal Book
Queensland Tube-nosed Fruit Bat	<i>Nyctimene robinsoni</i>	884.3946	No	Isaac et al. 2005
Raccoon	<i>Procyon lotor</i>	1074.592	No	Dalerum 2007
Raccoon dog	<i>Nyctereutes procyonoides</i>	671.5724	pair bond	Dalerum 2007
Radde's Shrew	<i>Sorex raddei</i>	701.5219	No	Murariu & Benedek 2005 Grig Antip
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>	729.8822	No	Hurst & Lacki 1999

Rahm's Brush-furred Rat	<i>Lophuromys rahmi</i>	1070.51	No	Nowak 1999 Mammal Book
Rain Forest Shrew	<i>Sylvisorex pluvialis</i>	1191.527	No	Murariu & Benedek 2005 Grig Antip
Rainey's Shrew	<i>Crocidura raineyi</i>	870.4548	No	Murariu & Benedek 2005 Grig Antip
Ravelobe Mouse Lemur	<i>Microcebus ravelobensis</i>	864.4954	No	Weidt et al. 2004 Am J Phys Anthro
Red Acouchi	<i>Myoprocta acouchy</i>	1429.769	No	Dubost 1987 J Zool
Red Bush Squirrel	<i>Paraxerus palliatus</i>	1359.478	No	Apps 2000 Field Guide to SA Mammals
Red Deer (see comments)	<i>Cervus elaphus</i>	425.2996	No	Nowak 1999 Mammal Book
Red Duiker	<i>Cephalophus natalensis</i>	878.8104	No	Nowak 1999 Mammal Book
Red Fox	<i>Vulpes vulpes</i>	307.4059	pair bond	Dalerum 2007
Red Muntjac	<i>Muntiacus muntjak</i>	1295.51	No	Nowak 1999 Mammal Book
Red Panda	<i>Ailurus fulgens</i>	738.1218	No	Dalerum 2007
Red River Hog	<i>Potamochoerus porcus</i>	594.9464	No	Clayton & Macdonald 1999
Red Ruffed Lemur	<i>Varecia rubra</i>	1500.674	No	Digby & Kahlenberg 2002 Primates
Red Serow	<i>Capricornis rubidus</i>	1111.093	No	Nowak 1999 Mammal Book
Red Slender Loris	<i>Loris tardigradus</i>	1448.941	No	Nowak 1999 Mammal Book
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	348.2856	No	Steele 1998 Mamm Sp
Red Tree Vole	<i>Arborimus longicaudus</i>	640.8505	No	Nowak 1999 Mammal Book
Red Veld Aethomys	<i>Aethomys chrysophilus</i>	296.827	pair bond	Nowak 1999 Mammal Book
Red Viscacha-rat	<i>Tympanoctomys barrerae</i>	145.714	No	Ebertsberger & Cofre 2001 BE
Red-and-gray Mouse Lemur	<i>Microcebus griseorufus</i>	539.1275	No	Genin 2008 IJP
Red-backed Bearded Saki	<i>Chiropotes chiropotes</i>	1387.168	No	Veiga et al. 2006 IJP
Red-bellied Lemur	<i>Eulemur rubriventer</i>	1413.73	pair bond	Curtis & Zaramody 1999
Red-bellied Titi	<i>Callicebus moloch</i>	1322.545	pair bond	Fragaszy et al. 1982 AJP
Reddish Tuco-tuco	<i>Ctenomys frater</i>	795.1936	No	Lacey & Ebensperger 2007 Rodent Societies
Reddish-gray Musk Shrew	<i>Crocidura cyanea</i>	946.9333	No	Murariu & Benedek 2005 Grig Antip
Red-eared Guenon	<i>Cercopithecus erythrotis</i>	1210.525	No	Nowak 1999 Mammal Book

Red-faced Spider Monkey	<i>Ateles paniscus</i>	1432.172	No	Nowak 1999 Mammal Book
Red-flanked Duiker	<i>Cephalophus rufilatus</i>	576.0723	No	Nowak 1999 Mammal Book
Red-fronted Lemur	<i>Eulemur rufus</i>	828.8673	No	Wimmer & Kappeler 2002
Red-handed Howler	<i>Alouatta belzebul</i>	1330.067	No	Nowak 1999 Mammal Book
Red-handed Tamarin	<i>Saguinus midas</i>	1440.189	pair bond	Porter 2001 Folia Primat
Red-headed Titi	<i>Callicebus regulus</i>	1314.915	pair bond	Kappeler 1999 Primate Communities Book
Red-legged Sun Squirrel	<i>Heliosciurus rufobrachium</i>	591.4806	No	Uehara 2003 African Study Monographs
Red-nosed Armored Tree-rat	<i>Makalata didelphoides</i>	1470.717	No	Nowak 1999 Mammal Book
Red-nosed Wiedomys	<i>Wiedomys pyrrhorhinus</i>	719.3028	No	Nowak 1999 Mammal Book
Red-rumped Agouti	<i>Dasyprocta leporina</i>	1457.133	pair bond	Henry 1999 J Trop Ecol
Red-shanked Douc Langur	<i>Pygathrix nemaeus</i>	1293.519	No	Kappeler 1999 Primate Communities Book
Red-tailed Chipmunk	<i>Tamias ruficaudus</i>	426.0603	No	Best 1993 Mammal Sp
Red-tailed Monkey	<i>Cercopithecus ascanius</i>	1187.1	No	Struhsaker 1977 Z Tierpsychol
Red-tailed Sportive Lemur	<i>Lepilemur ruficaudatus</i>	785.3764	No	Nowak 1999 Mammal Book
Red-tailed Squirrel	<i>Sciurus granatensis</i>	851.2685	No	Nitikman 1985
Reeves' Muntjac	<i>Muntiacus reevesi</i>	729.9191	No	Nowak 1999 Mammal Book
Reig's Tuco-tuco	<i>Ctenomys osvaldoreigi</i>	314.5722	No	Lacey & Ebensperger 2007 Rodent Societies
Reindeer	<i>Rangifer tarandus</i>	266.3413	No	Nowak 1999 Mammal Book
Remy's Pygmy Shrew	<i>Suncus remyi</i>	1306.965	No	Murariu & Benedek 2005 Grig Antip
Réunion House Bat	<i>Scotophilus borbonicus</i>	1285.055	No	Isaac et al. 2005
Rhesus Monkey	<i>Macaca mulatta</i>	848.3675	No	Nowak 1999 Mammal Book
Rhoads's Gerbil	<i>Gerbillus pulvinatus</i>	381.1743	No	Randall 2007 Rodent Societies Book
Ribboned Rope Squirrel	<i>Funisciurus lemniscatus</i>	1159.407	No	Emmons 1980
Richardson's Collared Lemming	<i>Dicrostonyx richardsoni</i>	286.24	No	Nowak 1999 Mammal Book
Richardson's Ground Squirrel	<i>Spermophilus richardsonii</i>	430.3901	No	Blumstein & Armitage 1999 Oikos
Ringtail	<i>Bassariscus astutus</i>	603.2583	No	Dalerum 2007

Ring-tailed Lemur	Lemur catta	555.6058	No	Sussmann 1991 AJPA
Ring-tailed Mongoose	Galidia elegans	1287.408	pair bond	Rood 1986
Rio Beni Titi	Callicebus modestus	1166.889	pair bond	Kappeler 1999 Primate Communities Book
Rio Mayo Titi	Callicebus oenanthe	1400.503	pair bond	Kappeler 1999 Primate Communities Book
Rio Negro Tuco-tuco	Ctenomys rionegrensis	228.75	No	Lacey & Ebensperger 2007 Rodent Societies
Rio Purus Titi	Callicebus purinus	1319.421	pair bond	Kappeler 1999 Primate Communities Book
Riverine Praomys	Praomys mutoni	1240.398	No	Nowak 1999 Mammal Book
Riverine Rabbit	Bunolagus monticularis	123.2826	No	Nowak 1999 Mammal Book
Roan Antelope	Hippotragus equinus	639.5	No	Nowak 1999 Mammal Book
Roatán Island Agouti	Dasyprocta ruatanica	1509.034	No	Lee et al. 2006 Mamm Sp
Robbins's Tateril	Taterillus arenarius	30.19432	No	Nowak 1999 Mammal Book
Robert's Hociudo	Oxymycterus roberti	657.5583	No	Nowak 1999 Mammal Book
Robert's Snow Vole	Chionomys roberti	478.2333	No	Janeau & Aulagnier 1997 J Mount Ecol
Robinson's Mouse Opossum	Marmosa robinsoni	1407.878	No	O'Connell 1983 Mamm Sp
Roborovski's Desert Hamster	Phodopus roborovskii	386.6028	No	Ross 1994 Mamm Sp
Robust Cottontail	Sylvilagus robustus	217.1131	No	Nowak 1999 Mammal Book
Robust Tuco-tuco	Ctenomys tuconax	639.4409	No	Lacey & Ebensperger 2007 Rodent Societies
Rock Cavy	Kerodon rupestris	709.104	No	Ebertsberger & Cofre 2001 BE
Rock Hyrax.	Procavia capensis	331.0021	No	Olds & Shoshani 1982 Mamm Sp
Rock Squirrel	Spermophilus variegatus	253.1589	No	Waser & Jones 1983 Quart Rev Biol
Rock-haunting ringtail	Petropseudes dahli	477.0264	pair bond	Runcie 2000 An Behav
Rodrigues Flying Fox	Pteropus rodricensis	1442.039	No	Isaac et al. 2005
Rodriguez's Harvest Mouse	Reithrodontomys rodriguezi	1253.687	No	Nowak 1999 Mammal Book
Roig's Tuco-tuco	Ctenomys roigi	487.0562	No	Lacey & Ebensperger 2007 Rodent Societies
Roman Mole	Talpa romana	549.1064	No	Loy et al. 1994 J Mammal
Romanian Hamster	Mesocricetus newtoni	468.6756	No	Nowak 1999 Mammal Book

Roof Rat	<i>Rattus rattus</i>	1054.822	No	Nowak 1999 Mammal Book
Roosevelt Muntjac	<i>Muntiacus rooseveltorum</i>	877.8	No	Nowak 1999 Mammal Book
Roosevelt's Shrew	<i>Crocidura roosevelti</i>	756.5475	No	Murariu & Benedek 2005 Grig Antip
Rosalinda Gerbil	<i>Gerbillus rosalinga</i>	61.43467	No	Randall 2007 Rodent Societies Book
Rothschild's Zokor	<i>Eospalax rothschildi</i>	662.2565	No	Burda et al. 2000
Round-tailed Ground Squirrel	<i>Spermophilus tereticaudus</i>	79.08369	No	Blumstein & Armitage 1999 Oikos
Round-tailed Muskrat	<i>Neofiber alleni</i>	882.0416	No	Nowak 1999 Mammal Book
Rudd's Bristle-furred Rat	<i>Uranomys ruddi</i>	467.663	No	Nowak 1999 Mammal Book
Ruddy Mongoose	<i>Herpestes smithii</i>	512.1437	No	Dalerum 2007
Ruddy Treeshrew	<i>Tupaia splendidula</i>	1364.701	No	Nowak 1999 Mammal Book
Rufous Hociudo	<i>Oxymycterus rufus</i>	436.002	No	Nowak 1999 Mammal Book
Rufous Myotis	<i>Myotis bocagii</i>	764.3104	No	Nowak 1999 Mammal Book
Rufous Nesomys	<i>Nesomys rufus</i>	1351.033	No	Nowak 1999 Mammal Book
Rumpi Mouse Shrew	<i>Myosorex rumpii</i>	1149.662	No	Murariu & Benedek 2005 Grig Antip
Rüppell's Fox	<i>Vulpes rueppellii</i>	15.0636	No	Dalerum 2007
Rusty-bellied Brush-furred Rat	<i>Lophuromys sikapusi</i>	1082.396	No	Nowak 1999 Mammal Book
Rusty-Spotted Cat	<i>Prionailurus rubiginosus</i>	464.0189	No	Grassman 2005
Ruwenzori Shrew	<i>Ruwenzorisorex suncooides</i>	908.9518	No	Murariu & Benedek 2005 Grig Antip
Ryukyu Shrew	<i>Crocidura orii</i>	1175.286	No	Murariu & Benedek 2005 Grig Antip
Sado Mole	<i>Mogera tokudae</i>	785.7551	No	Yokohata 2005 Mamm Stud
Sagebrush Vole	<i>Lemmiscus curtatus</i>	326.1135	No	Carroll & Genoways 1980
Saharan Shrew	<i>Crocidura tarfayensis</i>	138.282	No	Murariu & Benedek 2005 Grig Antip
Sahelian Tiny Shrew	<i>Crocidura pasha</i>	51.94801	No	Murariu & Benedek 2005 Grig Antip
Salenski's Shrew	<i>Chodsigoa salenskii</i>	775.5021	No	Murariu & Benedek 2005 Grig Antip
Salta Tuco-tuco	<i>Ctenomys saltarius</i>	572.9543	No	Lacey & Ebensperger 2007 Rodent Societies
Salvin's Spiny Pocket Mouse	<i>Liomys salvini</i>	1149.392	No	Carter & Genoways 1978

Sambar	<i>Rusa unicolor</i>	896.5172	No	Nowak 1999 Mammal Book
Sambirano Bamboo Lemur	<i>Hapalemur occidentalis</i>	1231.798	No	Tan 2007 Lemur Book
Sambirano Woolly Lemur	<i>Avahi unicolor</i>	1333.685	pair bond	Thalmann 2007 Lemurs
Samoaan Flying Fox	<i>Pteropus samoensis</i>	1534.101	No	Banack 2001 Mamm Sp
San Diego Pocket Mouse	<i>Chaetodipus fallax</i>	1014.611	No	Lackley 1996 Mamm Sp
San Joaquin Pocket Mouse	<i>Perognathus inornatus</i>	376.4361	No	Jones 1985 J Mamm
San Joaquin Valley Kangaroo Rat	<i>Dipodomys nitratoides</i>	228.8985	No	Jones 1985 J Mamm
San Jose Brush Rabbit	<i>Sylvilagus mansuetus</i>	124.9913	No	Nowak 1999 Mammal Book
San Juan Tuco-tuco	<i>Ctenomys johannis</i>	131.0629	No	Lacey & Ebensperger 2007 Rodent Societies
San Luis Tuco-tuco	<i>Ctenomys pontifex</i>	237.6845	No	Lacey & Ebensperger 2007 Rodent Societies
San Quintin Kangaroo Rat	<i>Dipodomys gravipes</i>	240.7815	No	Jones 1985 J Mamm
Sand Cat	<i>Felis margarita</i>	59.4048	No	Munoz-Duran 2002 EER
Sandy Blind Mole Rat	<i>Spalax arenarius</i>	329.8108	No	Nevo 2007 Rodent Societies book
Sandy Collilargo	<i>Oligoryzomys arenalis</i>	464.7553	No	Nowak 1999 Mammal Book
Sandy Inland Pseudomys	<i>Pseudomys hermannsburgensis</i>	266.85	No	Anstee et al. 1997 Wildl Res
Sangihe Tarsier	<i>Tarsius sangirensis</i>	1473.077	No	Nowak 1999 Mammal Book
Sanje Mangabey	<i>Cercocebus sanjei</i>	1206.398	No	Nowak 1999 Mammal Book
Santiago Nesoryzomys	<i>Nesoryzomys swarthi</i>	947.8681	No	Harris & MacDonald 2007 J Mamm
São Tomé Shrew	<i>Crocidura thomensis</i>	1296.795	No	Murariu & Benedek 2005 Grig Antip
Sarawak Surili	<i>Presbytis chrysomelas</i>	1370.823	No	Nowak 1999 Mammal Book
Savanna Dwarf Shrew	<i>Crocidura nanilla</i>	696.4333	No	Murariu & Benedek 2005 Grig Antip
Savanna Path Shrew	<i>Crocidura viaria</i>	15.22927	No	Murariu & Benedek 2005 Grig Antip
Savanna Shrew	<i>Crocidura fulvastra</i>	154.3435	No	Murariu & Benedek 2005 Grig Antip
Savanna Swamp Shrew	<i>Crocidura longipes</i>	443.0671	No	Murariu & Benedek 2005 Grig Antip
Savile's Bandicoot Rat	<i>Bandicota savilei</i>	950.8	No	Nowak 1999 Mammal Book
Scaglia's Tuco-tuco	<i>Ctenomys scagliai</i>	461.5049	No	Lacey & Ebensperger 2007 Rodent Societies

Schaller's Mouse Shrew	<i>Myosorex schalleri</i>	1135.605	No	Murariu & Benedek 2005 Grig Antip
Scimitar-horned Oryx	<i>Oryx dammah</i>	188.7936	No	Nowak 1999 Mammal Book
Sclater's Guenon	<i>Cercopithecus sclateri</i>	1049.937	No	Nowak 1999 Mammal Book
Sclater's Mouse Shrew	<i>Myosorex sclateri</i>	846.1492	No	Murariu & Benedek 2005 Grig Antip
Scrub Hare	<i>Lepus saxatilis</i>	173.5759	No	Nowak 1999 Mammal Book
Sea Otter	<i>Enhydra lutris</i>	451.645	No	Dalerum 2007
Seba's Short-tailed Bat	<i>Carollia perspicillata</i>	1129.595	No	Cloutier & Thomas 1992
Selous' Mongoose	<i>Paracynictis selousi</i>	511.9691	No	Dalerum 2007
Seminole Bat	<i>Lasiurus seminolus</i>	792.45	No	Wilkins 1987
Senegal Bushbaby	<i>Galago senegalensis</i>	128.3063	No	Bearder et al. 2003 Folia Primat
Senegal Tateril	<i>Taterillus pygargus</i>	19.56614	No	Nowak 1999 Mammal Book
Serval	<i>Leptailurus serval</i>	684.13	No	Dalerum 2007
Setzer's Hairy-footed Gerbil	<i>Gerbillurus setzeri</i>	138.2895	No	Randall 2007 Rodent Societies Book
Seurat's Spiny Mouse	<i>Acomys seurati</i>	19.11559	No	Nowak 1999 Mammal Book
Seven-banded Armadillo	<i>Dasybus septemcinctus</i>	624.4116	No	Rose & Gaudin 2010 Enc of Life Sciences
Severtzov's Birch Mouse	<i>Sicista severtzovi</i>	407.5564	No	Nowak 1999 Mammal Book
Severtzov's Jerboa	<i>Allactaga severtzovi</i>	172.4068	No	Randall 2007 Rodent societies book
Sewellel	<i>Aplodontia rufa</i>	569.1683	No	Carraway 1993
Seychelles Flying Fox	<i>Pteropus seychellensis</i>	1624.864	No	Isaac et al. 2005
Sharpe's Grysbok	<i>Raphicerus sharpei</i>	795.0947	No	Nowak 1999 Mammal Book
Shaw's Jird	<i>Meriones shawi</i>	312.2853	No	Randall 2007 Rodent Societies Book
Shinto Shrew	<i>Sorex shinto</i>	784.0172	No	Murariu & Benedek 2005 Grig Antip
Short-beaked Echidna	<i>Tachyglossus aculeatus</i>	1430.117	No	Rismiller & McKelvey 2000 J Mamm
Short-eared Dog	<i>Atelocynus microtis</i>	1333.663	No	Munoz-Duran 2002 EER
Short-eared Elephant Shrew	<i>Macroscelides proboscideus</i>	48.2006	pair bond	Lawes & Perrin 1995 BES
Short-eared Possum	<i>Trichosurus caninus</i>	883.2219	No	Lindenmayer 1997 J Mamm

Short-nosed Harvest Mouse	<i>Reithrodontomys brevirostris</i>	1211.876	No	Nowak 1999 Mammal Book
Shortridge's Langur	<i>Trachypithecus shortridgei</i>	823.0684	No	Kappeler 1999 Primate Communities Book
Short-snouted Elephant Shrew	<i>Elephantulus brachyrhynchus</i>	599.2034	pair bond	Rathbun & Rathbun 2006 J Zool
Short-tailed Gymnure	<i>Hylomys suillus</i>	1590.1	No	Nowak 1999 Mammal Book
Short-tailed Zygodont	<i>Zygodontomys brevicauda</i>	1174.968	No	Voss et al. 1992 Lab Anim
Shrew-faced Squirrel	<i>Rhinosciurus laticaudatus</i>	1385.554	No	Saiful & Nordin 2004 J Trop Ecol
Siamang	<i>Symphalangus syndactylus</i>	1326.77	pair bond	Nowak 1999 Mammal Book
Siberian Chipmunk	<i>Tamias sibiricus</i>	458.4316	No	Kawamichi 1999 Mamm Sci
Siberian Flying Squirrel	<i>Pteromys volans</i>	285.7811	No	Hanski et al. 2000 J Mamm
Siberian Ibex	<i>Capra sibirica</i>	573.8886	No	Fedosenko & Blank 2001 Mamm Sp
Siberian Large-toothed Shrew	<i>Sorex daphaenodon</i>	313.1226	No	Murariu & Benedek 2005 Grig Antip
Siberian Musk Deer	<i>Moschus moschiferus</i>	407.0968	No	Nowak 1999 Mammal Book
Siberian Roe	<i>Capreolus pygargus</i>	863.9206	No	Nowak 1999 Mammal Book
Siberian Shrew	<i>Crocidura sibirica</i>	352.7328	No	Murariu & Benedek 2005 Grig Antip
Siberian Weasel	<i>Mustela sibirica</i>	379.4504	No	Dalerum 2007
Siberut Macaque	<i>Macaca siberu</i>	1452.453	No	Nowak 1999 Mammal Book
Sibree's Dwarf Lemur	<i>Cheirogaleus sibreei</i>	1275.017	pair bond	Lahann IJP 2008
Sicilian Shrew	<i>Crocidura sicula</i>	647.1107	No	Murariu & Benedek 2005 Grig Antip
Sierra Tontal Tuco-tuco	<i>Ctenomys tulduco</i>	241.9808	No	Lacey & Ebensperger 2007 Rodent Societies
Sika	<i>Cervus nippon</i>	932.7928	No	Nowak 1999 Mammal Book
Silky Anteater	<i>Cyclopes didactylus</i>	1117	No	Rose & Gaudin 2010 Enc of Life Sciences
Silky Pocket Mouse	<i>Perognathus flavus</i>	320.637	No	Jones 1985 J Mamm
Silky Tuco-tuco	<i>Ctenomys sericeus</i>	507.5076	No	Lacey & Ebensperger 2007 Rodent Societies
Silver Mountain Vole	<i>Alticola argentatus</i>	347.0227	No	Weiner & Gorecki 1981 J Comp Phys
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	991.5189	No	Kunz 1982 Mamm Sp
Silver-tipped Myotis	<i>Myotis albescens</i>	976.1333	No	Nowak 1999 Mammal Book

Silvery Javan Gibbon	<i>Hylobates moloch</i>	1500.35	pair bond	Dallmann & Geismann 2001
Silvery Lutung	<i>Trachypithecus cristatus</i>	1345.08	No	Kappeler 1999 Primate Communities Book
Silvery Mole-rat	<i>Heliophobius argenteocinereus</i>	1015.51	No	Sumbera & Chitaukali 2004
Silvery Woolly Monkey	<i>Lagothrix poeppigii</i>	1270.405	No	di Fiore & Fleischer 2005 IJP
Simakobou	<i>Simias concolor</i>	1440.955	No	Nowak 1999 Mammal Book
Sinaloan Mastiff Bat	<i>Molossus sinaloae</i>	1152.183	No	Dechmann et al. 2010
Siola	<i>Pseudoryx nghetinhensis</i>	1326.429	No	Nowak 1999 Mammal Book
Sir David's Long-beaked Echidna.	<i>Zaglossus attenboroughi</i>	1325	No	Rismiller & McKelvey 2000 J Mamm
Sitatunga	<i>Tragelaphus spekii</i>	394.3125	No	Nowak 1999 Mammal Book
Six-banded Armadillo	<i>Euphractus sexcinctus</i>	318.35	No	Redford & Wetzel 1985 Mamm Sp
Slender Harvest Mouse	<i>Reithrodontomys gracilis</i>	1250.679	No	Nowak 1999 Mammal Book
Slender Shrew	<i>Sorex gracillimus</i>	637.6	No	Murariu & Benedek 2005 Grig Antip
Slender Treeshrew	<i>Tupaia gracilis</i>	1401.2	No	Nowak 1999 Mammal Book
Slender-tailed Dunnart	<i>Sminthopsis murina</i>	1812	No	Righetti et al. 2000 Aus J Zool
Sloth Bear	<i>Melursus ursinus</i>	834.6	No	Dalerum 2007
Small Asian Mongoose	<i>Herpestes javanicus</i>	920.3	No	Dalerum 2007
Small Five-toed Jerboa	<i>Allactaga elater</i>	160.7435	No	Heske et al. 1995 J Mamm
Small Hociudo	<i>Oxymycterus hiska</i>	1131.784	No	Nowak 1999 Mammal Book
Small Indian Civet	<i>Viverricula indica</i>	1285.068	No	Dalerum 2007
Small Iron-gray Dwarf Lemur	<i>Cheirogaleus minusculus</i>	1049.24	pair bond	Lahann IJP 2008
Small Japanese Mole	<i>Mogera imaizumii</i>	640.6333	No	Yokohata 2005 Mamm Stud
Small Mouse-tailed Bat	<i>Rhinopoma muscatellum</i>	34.69685	No	Qumsiyeh & Jones 1986 Mamm Sp
Small-eared Collargo	<i>Oligoryzomys microtis</i>	1238.19	No	Nowak 1999 Mammal Book
Smaller Horseshoe Bat	<i>Rhinolophus megaphyllus</i>	1218.389	No	Young 2001
Small-footed Shrew	<i>Crocidura parvipes</i>	1181.45	No	Murariu & Benedek 2005 Grig Antip
Small-toothed Harvest Mouse	<i>Reithrodontomys microdon</i>	866.2049	No	Nowak 1999 Mammal Book

Small-toothed Sportive Lemur	<i>Lepilemur microdon</i>	1303.932	No	Nowak 1999 Mammal Book
Smith's Zokor	<i>Eospalax smithii</i>	331.6708	No	Burda et al. 2000
Smith's Bush Squirrel	<i>Paraxerus cepapi</i>	997.04	No	Apps 2000 Field Guide to SA Mammals
Smith's Shrew	<i>Chodsigoa smithii</i>	710.5707	No	Murariu & Benedek 2005 Grig Antip
Smoky Shrew	<i>Sorex fumeus</i>	611.1635	No	Murariu & Benedek 2005 Grig Antip
Smoky White-toothed Shrew	<i>Crocidura fumosa</i>	590.353	No	Murariu & Benedek 2005 Grig Antip
Smooth-coated Otter	<i>Lutrogale perspicillata</i>	897.9805	pair bond	Hwang 2005
Snowshoe Hare	<i>Lepus americanus</i>	485.0701	No	Quenette et al. 1997 Behav Proc
Soft-furred Tree Mouse	<i>Typhlomys cinereus</i>	771.1796	No	Schiller book Rice in Laos
Soft-spined Atlantic Spiny-rat	<i>Trinomys dimidiatus</i>	1047.606	No	Attias et al. 2009 Zoologia
Solomons Flying Fox	<i>Pteropus rayneri</i>	1514.094	No	Isaac et al. 2005
Somali Bushbaby	<i>Galago gallarum</i>	875.6785	No	Bearder et al. 2003 Folia Primat
Somali Dwarf Shrew	<i>Crocidura nana</i>	269.9312	No	Murariu & Benedek 2005 Grig Antip
Somali Hedgehog	<i>Atelerix sclateri</i>	283.5467	No	Nowak 1999 Mammal Book
Somali Shrew	<i>Crocidura somalica</i>	6.971681	No	Murariu & Benedek 2005 Grig Antip
Sonoma Chipmunk	<i>Tamias sonomae</i>	518.1491	No	Best 1993 Mammal Sp
Sonoran Harvest Mouse	<i>Reithrodontomys burti</i>	341.0188	No	Nowak 1999 Mammal Book
Sonoran Woodrat	<i>Neotoma phenax</i>	348.6252	No	Nowak 1999 Mammal Book
Sooty Mangabey	<i>Cercocebus atys</i>	1081.733	No	Nowak 1999 Mammal Book
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	391.5807	No	Lourenco 2004
South African Ground Squirrel	<i>Xerus inauris</i>	144.2037	No	Waterman 1998 Anim Behav
South African Spring Hare	<i>Pedetes capensis</i>	421.4	No	Butynski & Matingly 1979
South American Brown Brocket	<i>Mazama gouazoubira</i>	1462.435	No	Noss et al. 2006 Mammalia
South American Coati	<i>Nasua nasua</i>	514.8	No	Gompper & Decker 1998
South American Red Brocket	<i>Mazama americana</i>	704.7251	No	Macnamara & Eldridge 1987 Symposium report
South American Tapir	<i>Tapirus terrestris</i>	1255.717	No	Nowak 1999 Mammal Book

Southeast Asian Shrew	<i>Crocidura fuliginosa</i>	1139.902	No	Murariu & Benedek 2005 Grig Antip
Southeastern Pocket Gopher.	<i>Geomys pinetis</i>	738.2	No	Nowak 1999 Mammal Book
Southeastern Shrew	<i>Sorex longirostris</i>	695.7718	No	Murariu & Benedek 2005 Grig Antip
Southern African Hedgehog	<i>Atelerix frontalis</i>	261.5938	No	Nowak 1999 Mammal Book
Southern African Mole-rat	<i>Cryptomys hottentotus</i>	403.5	pair bond	Nowak 1999 Mammal Book
Southern African Pouched Mouse	<i>Saccostomus campestris</i>	208.5	No	Nowak 1999 Mammal Book
Southern African Spiny Mouse	<i>Acomys spinosissimus</i>	676.5417	No	Nowak 1999 Mammal Book
Southern African Vlei Rat	<i>Otomys irroratus</i>	566.4168	No	Bronner et al. 1988 Mamm Sp
Southern Birch Mouse	<i>Sicista subtilis</i>	359.0136	No	Nowak 1999 Mammal Book
Southern Blossom Bat	<i>Syconycteris australis</i>	1100.574	No	Isaac et al. 2005
Southern Bog Lemming	<i>Synaptomys cooperi</i>	582.8751	No	Nowak 1999 Mammal Book
Southern Bororó	<i>Mazama nana</i>	992.7063	No	Abril & Duarte 2008 Gen Mol Biol
Southern Brown Bandicoot	<i>Isodon obesulus</i>	651.4915	No	Broughton & Dickman 1991
Southern Cotton Rat	<i>Sigmodon hirsutus</i>	951.9306	No	Nowak 1999 Mammal Book
Southern Flying Squirrel	<i>Glaucomys volans</i>	826	No	Dolan & Carter 1977 Mamm Sp
Southern Grasshopper Mouse	<i>Onychomys torridus</i>	195.1069	No	McCarty 1975 Mamm Sp
Southern Long-nosed Armadillo	<i>Dasypus hybridus</i>	178.6582	No	Rose & Gaudin 2010 Enc of Life Sciences
Southern Marsupial Mole	<i>Notoryctes typhlops</i>	98.07497	No	Benshemesh 2004 NTR Species Recovery Plan
Southern Mountain Cavy	<i>Microcavia australis</i>	443.2592	No	Ebertsberger & Cofre 2001 BE
Southern Mountain Viscacha	<i>Lagidium viscacia</i>	315.093	No	Nowak 1999 Mammal Book
Southern Muriqui	<i>Brachyteles arachnoides</i>	1200.164	No	Strier et al. 2002 Behav
Southern Naked-tailed Armadillo	<i>Cabassous unicinctus</i>	1171.852	No	Carter & Encarnacao 1983
Southern Needle-clawed Bushbaby	<i>Euoticus elegantulus</i>	1082.494	No	Nowak 1999 Mammal Book
Southern Pig-tailed Macaque	<i>Macaca nemestrina</i>	1424.35	No	Nowak 1999 Mammal Book
Southern Plains Gray Langur	<i>Semnopithecus dussumieri</i>	721.4	No	Nowak 1999 Mammal Book
Southern Plains Woodrat	<i>Neotoma micropus</i>	637.0609	No	Nowak 1999 Mammal Book

Southern Pocket Gopher.	<i>Thomomys umbrinus</i>	699.508	No	Nowak 1999 Mammal Book
Southern Pygmy Mouse	<i>Baiomys musculus</i>	1037.302	No	Blair 1941 J Mamm
Southern Red-backed Vole	<i>Myodes gapperi</i>	322.2001	No	Merritt 1981 Mamm Sp
Southern Reedbuck	<i>Redunca arundinum</i>	605.9	pair bond	Waser & Jones 1983 Quart Rev Biol
Southern River Otter	<i>Lontra provocax</i>	445.3013	No	Lariviere 1999
Southern Short-tailed Shrew	<i>Blarina carolinensis</i>	842.15	No	Murariu & Benedek 2005 Grig Antip
Southern Tamandua	<i>Tamandua tetradactyla</i>	342.9948	No	Rose & Gaudin 2010 Enc of Life Sciences
Southern Three-banded Armadillo	<i>Tolypeutes matacus</i>	297.6041	No	Sandborn 1930 J Mamm
Southern Tuco-tuco	<i>Ctenomys australis</i>	459.2797	No	Lacey & Ebensperger 2007 Rodent Societies
Southern White-Breasted Hedgehog	<i>Erinaceus concolor</i>	216.9694	No	Nowak 1999 Mammal Book
Southern Yellow Bat	<i>Lasiurus ega</i>	622.815	No	Kurta & Lehr 1995 Mamm Sp
Southwestern Water Vole	<i>Arvicola sapidus</i>	479.1941	pair bond	Solomon & Getz 1997 book chapter
Spectacled African Dormouse	<i>Graphiurus ocularis</i>	726.2	No	Webb & Skinner 1996
Spectacled Bear	<i>Tremarctos ornatus</i>	897.2525	No	Dalerum 2007
Spectral Bat	<i>Vampyrum spectrum</i>	640.0429	pair bond	Navarro & Wilson 1982 Mamm Sp
Spectral Tarsier	<i>Tarsius tarsier</i>	1359.83	No	Nowak 1999 Mammal Book
Spiked Atlantic Spiny-rat	<i>Trinomys paratus</i>	1058.616	No	Attias et al. 2009 Zoologia
Spiny Tree Mouse	<i>Platacanthomys lasiurus</i>	1243.35	No	Nowak 1999 Mammal Book
Spix's Night Monkey	<i>Aotus vociferans</i>	1380.496	pair bond	Nowak 1999 Mammal Book
Spix's Yellow-toothed Cavy	<i>Galea spixii</i>	766.8582	No	Mares & Lacher 1987 Current Mamm
Spix's Disk-winged Bat	<i>Thyroptera tricolor</i>	1160.166	No	Vonhof et al. 2004 Anim Behav
Spotted Bat	<i>Euderma maculatum</i>	394.708	No	Wai Ping & Fenton 1989 J Mamm
Spotted Hyena	<i>Crocuta crocuta</i>	200.9	No	Dalerum 2007
Spotted-winged Fruit Bat	<i>Balionycteris maculata</i>	1378.048	No	Hodgkison 2003
Sprightly Colilargo	<i>Oligoryzomys vegetus</i>	998.5124	No	Nowak 1999 Mammal Book
Springbok	<i>Antidorcas marsupialis</i>	130.7225	No	Nowak 1999 Mammal Book

Sri Lankan Giant Squirrel	<i>Ratufa macroura</i>	1291.635	No	Dobroruka 1975 Int Zoo Yb
Sri Lankan Long-tailed Shrew	<i>Crocidura miya</i>	1386.37	No	Murariu & Benedek 2005 Grig Antip
Sri Lankan Shrew	<i>Suncus fellowesgordoni</i>	1215.9	No	Murariu & Benedek 2005 Grig Antip
St. Lawrence Island Shrew	<i>Sorex jacksoni</i>	295.3374	No	Murariu & Benedek 2005 Grig Antip
Star-nosed Mole	<i>Condylura cristata</i>	609.2896	No	Nowak 1999 Mammal Book
Steenbok	<i>Raphicerus campestris</i>	94.2	pair bond	Nowak 1999 Mammal Book
Steinbach's Tuco-tuco	<i>Ctenomys steinbachi</i>	786.2537	No	Lacey & Ebensperger 2007 Rodent Societies
Stephen Nash's Titi	<i>Callicebus stephennashi</i>	1410.359	pair bond	Kappeler 1999 Primate Communities Book
Stephen's Woodrat	<i>Neotoma stephensi</i>	164.898	No	Jones & Hildreth 1998 Mamm Sp
Stephens's Kangaroo Rat	<i>Dipodomys stephensi</i>	221.7989	No	Price et al. 1994 J Mamm
Steppe Polecat	<i>Mustela eversmanii</i>	441.6154	No	Dalerum 2007
Steppe Vole	<i>Lagurus lagurus</i>	456.9216	pair bond	Potapov et al. 2012 Russian Journal
Steppe Zokor	<i>Myospalax aspalax</i>	302.8212	No	Burda et al. 2000
Strand's Birch Mouse	<i>Sicista strandi</i>	399.5867	No	Nowak 1999 Mammal Book
Straw-colored Colilargo	<i>Oligoryzomys stramineus</i>	700.1438	No	Nowak 1999 Mammal Book
Strelzow's Mountain Vole	<i>Alticola strelzowi</i>	469.2213	No	Nowak 1999 Mammal Book
Stripe-backed Shrew	<i>Sorex cylindricauda</i>	623.9072	No	Murariu & Benedek 2005 Grig Antip
Striped Desert Hamster	<i>Phodopus sungorus</i>	311.5878	No	Ross 1998 Mamm sp
Striped Field Mouse	<i>Apodemus agrarius</i>	570.3259	No	Baker et al. 1999 Mol Ecol
Striped Ground Squirrel	<i>Xerus erythropus</i>	69.07962	No	Herron & Waterman 2004 Mammal Sp
Striped Hyena	<i>Hyaena hyaena</i>	385.4724	No	Dalerum 2007
Striped Polecat	<i>Ictonyx striatus</i>	251.6825	No	Dalerum 2007
Striped Possum	<i>Dactylopsila trivirgata</i>	1356.982	No	Handasyde & Martin 1996 Wild Res
Striped Skunk	<i>Mephitis mephitis</i>	653.916	No	Dalerum 2007
Striped Treeshrew	<i>Tupaia dorsalis</i>	1348.916	No	Nowak 1999 Mammal Book
Stripe-necked Mongoose	<i>Herpestes vitticollis</i>	1089.294	No	Dalerum 2007

Stump-tailed Macaque	<i>Macaca arctoides</i>	1103.136	No	Nowak 1999 Mammal Book
Sudan Gerbil	<i>Gerbillus nancillus</i>	64.72431	No	Randall 2007 Rodent Societies Book
Sudanian Arvicanthis	<i>Arvicanthis ansorgei</i>	77.89446	No	Nowak 1999 Mammal Book
Sugar Glider	<i>Petaurus breviceps</i>	798.2453	No	Smith 1973 Mamm sp
Sulawesi Palm Civet	<i>Macrogalidia musschenbroekii</i>	1468.931	No	Dalerum 2007
Sulawesi Shrew	<i>Crocidura lea</i>	1427.348	No	Murariu & Benedek 2005 Grig Antip
Sulawesi Tiny Shrew	<i>Crocidura levicula</i>	1455.857	No	Murariu & Benedek 2005 Grig Antip
Sulawesi White-handed Shrew	<i>Crocidura rhoditis</i>	1384.369	No	Murariu & Benedek 2005 Grig Antip
Sumatran Giant Shrew	<i>Crocidura lepidura</i>	1444.85	No	Murariu & Benedek 2005 Grig Antip
Sumatran Long-tailed Shrew	<i>Crocidura paradoxura</i>	1452.011	No	Murariu & Benedek 2005 Grig Antip
Sumatran Orangutan	<i>Pongo abelii</i>	1407.45	No	Nowak 1999 Mammal Book
Sumatran Rhinoceros	<i>Dicerorhinus sumatrensis</i>	1391.964	No	Nowak 1999 Mammal Book
Sumatran Serow	<i>Capricornis sumatraensis</i>	1415.29	No	Nowak 1999 Mammal Book
Sumatran Striped Rabbit	<i>Nesolagus netscheri</i>	1475.449	No	Richardson & Walton 1989 Faun Austr
Sumatran Surili	<i>Presbytis melalophos</i>	1241.127	No	Nowak 1999 Mammal Book
Sumatran Water Shrew	<i>Chimarrogale sumatrana</i>	1399.057	No	Murariu & Benedek 2005 Grig Antip
Sumichrast's Harvest Mouse	<i>Reithrodontomys sumichrasti</i>	1054.571	No	Nowak 1999 Mammal Book
Sumichrast's Vesper Rat	<i>Nyctomys sumichrasti</i>	934.4	No	Hunt et al. 2004 Mamm Sp
Sun bear	<i>Helarctos malayanus</i>	1469.308	No	Dalerum 2007
Sunda Pangolin	<i>Manis javanica</i>	1339.218	No	Wilson 1994 Int Zool Yb
Sunda Shrew	<i>Crocidura monticola</i>	1469.691	No	Murariu & Benedek 2005 Grig Antip
Sundevall's Jird	<i>Meriones crassus</i>	241.4	No	Randall 2007 Rodent Societies Book
Sun-tailed Monkey	<i>Cercopithecus solatus</i>	1205.768	No	Nowak 1999 Mammal Book
Superagui Lion Tamarin	<i>Leontopithecus caissara</i>	1234.832	pair bond	Fernandez-Duque et al. 2012
Swamp Musk Shrew	<i>Crocidura mariquensis</i>	765.04	No	Murariu & Benedek 2005 Grig Antip
Swamp Rabbit	<i>Sylvilagus aquaticus</i>	656.1	No	Nowak 1999 Mammal Book

Swarthy Gerbil	<i>Gerbillus aquilus</i>	84.31671	No	Randall 2007 Rodent Societies Book
Swift Fox	<i>Vulpes velox</i>	272.3331	pair bond	Dalerum 2007
Syrian Calomyscus	<i>Calomyscus tsolovi</i>	253.3926	No	Nowak 1999 Mammal Book
Taiga Shrew	<i>Sorex isodon</i>	282.7988	No	Murariu & Benedek 2005 Grig Antip
Taiga Vole	<i>Microtus xanthognathus</i>	255.4719	No	Conroy & Cook 1999
Tail-less Tenrec	<i>Tenrec ecaudatus</i>	626.5	No	Eisenberg & Gould 1967 Int Zool YB
Taita Shrew	<i>Suncus aequatorius</i>	865.1591	No	Murariu & Benedek 2005 Grig Antip
Taiwan Vole	<i>Microtus kikuchii</i>	1081.999	Yes	Wu et al. 2010/Wu et al., 2012
Taiwanese Gray Shrew	<i>Crocidura tanakae</i>	1110.2	No	Murariu & Benedek 2005 Grig Antip
Taiwanese Mole Shrew	<i>Anourosorex yamashinai</i>	1163.881	No	Murariu & Benedek 2005 Grig Antip
Takin	<i>Budorcas taxicolor</i>	658.2273	No	Nowak 1999 Mammal Book
Talamancan Harvest Mouse	<i>Reithrodontomys creper</i>	1255.604	No	Nowak 1999 Mammal Book
Talamancan Small-eared Shrew	<i>Cryptotis gracilis</i>	1265.782	No	Murariu & Benedek 2005 Grig Antip
Tamá Small-eared Shrew	<i>Cryptotis tamensis</i>	1207.834	No	Murariu & Benedek 2005 Grig Antip
Tamarau	<i>Bubalus mindorensis</i>	1214.617	No	Nowak 1999 Mammal Book
Tamarisk Jird	<i>Meriones tamariscinus</i>	355.6446	No	Randall 2007 Rodent Societies Book
Tamaulipan Woodrat	<i>Neotoma angustapalata</i>	1136.728	No	Nowak 1999 Mammal Book
Tana River Mangabey	<i>Cercocebus galeritus</i>	860.6857	No	Ehardt et al. 2005 IJP
Tanala Tufted-tailed Rat	<i>Eliurus tanala</i>	976.1	No	Nowak 1999 Mammal Book
Tanzanian Shrew	<i>Crocidura tansaniana</i>	1540.189	No	Murariu & Benedek 2005 Grig Antip
Tapeti	<i>Sylvilagus brasiliensis</i>	401.7136	No	Nowak 1999 Mammal Book
Tarabul's Gerbil	<i>Gerbillus tarabuli</i>	75.2963	No	Randall 2007 Rodent Societies Book
Tarai Gray Langur	<i>Semnopithecus hector</i>	705.5861	No	Nowak 1999 Mammal Book
Tarella Shrew	<i>Crocidura tarella</i>	1326.937	No	Murariu & Benedek 2005 Grig Antip
Taruca	<i>Hippocamelus antisensis</i>	453.601	No	Povilitis 1983 J Mamm
Tawny Tuco-tuco	<i>Ctenomys fulvus</i>	117.1457	No	Lacey & Ebensperger 2007 Rodent Societies

Tawny-bellied Cotton Rat	<i>Sigmodon fulviventer</i>	204.875	No	Nowak 1999 Mammal Book
Tayra	<i>Eira barbara</i>	620.3822	No	Dalerum 2007
Tehuantepec Jackrabbit	<i>Lepus flavigularis</i>	894.6333	No	Nowak 1999 Mammal Book
Telford's Shrew	<i>Crocidura telfordi</i>	1130.008	No	Murariu & Benedek 2005 Grig Antip
Temminck's Tailless Fruit Bat	<i>Megaerops ecaudatus</i>	1262.54	No	Isaac et al. 2005
Temminck's Flying Fox	<i>Pteropus temminckii</i>	1541.4	No	Isaac et al. 2005
Tenasserim Lutung	<i>Trachypithecus barbei</i>	1389.35	No	Kappeler 1999 Primate Communities Book
Texas Antelope Squirrel	<i>Ammospermophilus interpres</i>	206.2465	No	Best et al. 1990 Mammal Sp
Texas Deermouse	<i>Peromyscus attwateri</i>	735.3936	No	Schmidly 1974 Mamm Sp
Texas Kangaroo Rat	<i>Dipodomys elator</i>	341.5731	No	Behrends et al. 1986 Behav
Texas Pocket Gopher.	<i>Geomys personatus</i>	626.26	No	Nowak 1999 Mammal Book
Thaeler's Pocket Gopher.	<i>Orthogeomys thaeleri</i>	933.4675	No	Goldman 1939 J Mamm
Thalia's Shrew	<i>Crocidura thalia</i>	935.5002	No	Murariu & Benedek 2005 Grig Antip
Therese's Shrew	<i>Crocidura theresae</i>	1223.558	No	Murariu & Benedek 2005 Grig Antip
Thick-tailed Pygmy Jerboa	<i>Salpingotus crassicauda</i>	243.8531	No	Randall 2007 Rodent societies book
Thick-tailed Shrew	<i>Crocidura brunnea</i>	1330.344	No	Murariu & Benedek 2005 Grig Antip
Thick-tailed Three-toed Jerboa	<i>Stylodipus telum</i>	459.7333	No	Heske et al. 1995 J Mamm
Thin Mouse Shrew	<i>Myosorex tenuis</i>	564.1472	No	Murariu & Benedek 2005 Grig Antip
Thirteen-lined Ground Squirrel	<i>Spermophilus tridecemlineatus</i>	551.9897	No	Waser & Jones 1983 Quart Rev Biol
Thomas' Small-eared Shrew	<i>Cryptotis thomasi</i>	1127.29	No	Murariu & Benedek 2005 Grig Antip
Thomas's Langur	<i>Presbytis thomasi</i>	1142.1	No	Nowak 1999 Mammal Book
Thomas's Fruit-eating Bat	<i>Artibeus watsoni</i>	1122.469	No	Chaverri et al. 2007
Thomas's Rope Squirrel	<i>Funisciurus anerythrus</i>	432.5867	No	Emmons 1980
Thomson's Gazelle	<i>Eudorcas thomsonii</i>	615.7803	No	Nowak 1999 Mammal Book
Three-striped Ground Squirrel	<i>Lariscus insignis</i>	1370.501	No	Saiful et al. 2001 Biotropica
Three-striped Night Monkey	<i>Aotus trivirgatus</i>	1252.195	pair bond	Nowak 1999 Mammal Book

Tibetan Gazelle	<i>Procapra picticaudata</i>	447.0807	No	Nowak 1999 Mammal Book
Tibetan Shrew	<i>Sorex thibetanus</i>	569.8666	No	Murariu & Benedek 2005 Grig Antip
Tien Shan Birch Mouse	<i>Sicista tianshanica</i>	336.8328	No	Nowak 1999 Mammal Book
Tien Shan Shrew	<i>Sorex asper</i>	371.9842	No	Murariu & Benedek 2005 Grig Antip
Tiger	<i>Panthera tigris</i>	958.1294	No	Dalerum 2007
Tiger Quoll	<i>Dasyurus maculatus</i>	527.7333	No	Jones et al. 2001 Mamm Sp
Timor Shrew	<i>Crocidura tenuis</i>	1246.017	No	Murariu & Benedek 2005 Grig Antip
Tiny African Fat Mouse	<i>Steatomys parvus</i>	651.8435	No	Nowak 1999 Mammal Book
Tiny Pipistrelle	<i>Pipistrellus nanulus</i>	655.85	No	Isaac et al. 2005
Tiny Tuco-tuco	<i>Ctenomys minutus</i>	616.4319	No	Lacey & Ebensperger 2007 Rodent Societies
Tolai Hare	<i>Lepus tolai</i>	615.925	No	Nowak 1999 Mammal Book
Toltec Cotton Rat	<i>Sigmodon toltecus</i>	675.9333	No	Nowak 1999 Mammal Book
Tome's Spiny-rat	<i>Proechimys semispinosus</i>	1426.3	No	Ebensperger & Blumstein 2006 BE
Tonkean Macaque	<i>Macaca tonkeana</i>	1319.545	No	Nowak 1999 Mammal Book
Toque Macaque	<i>Macaca sinica</i>	1149.45	No	Nowak 1999 Mammal Book
Townsend's Mole	<i>Scapanus townsendii</i>	611.0847	No	Nowak 1999 Mammal Book
Townsend's Vole	<i>Microtus townsendii</i>	489.98	No	Solomon & Getz 1997 book chapter
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	382.9021	No	Fellers 2002
Townsend's Chipmunk	<i>Tamias townsendii</i>	522.1	No	Fuller & Blaustein 1990 Behav
Townsend's Ground Squirrel	<i>Spermophilus townsendii</i>	277.3557	No	Blumstein & Armitage 1999 Oikos
Tranieri's Tateril	<i>Taterillus tranieri</i>	76.02216	No	Nowak 1999 Mammal Book
Transcaucasian Water Shrew	<i>Neomys teres</i>	553.2179	No	Murariu & Benedek 2005 Grig Antip
Trefoil Horseshoe Bat	<i>Rhinolophus trifoliatus</i>	1423.337	No	Rossiter 2012
Tres Marias Cottontail	<i>Sylvilagus graysoni</i>	948.1833	No	Nowak 1999 Mammal Book
Tristram's Jird	<i>Meriones tristrami</i>	395.406	No	Randall 2007 Rodent Societies Book
Tropical Pocket Gopher.	<i>Geomys tropicalis</i>	737.232	No	Nowak 1999 Mammal Book

Tropical Small-eared Shrew	<i>Cryptotis tropicalis</i>	1290.5	No	Murariu & Benedek 2005 Grig Antip
Tschudi's Colilargo	<i>Oligoryzomys destructor</i>	795.5394	No	Nowak 1999 Mammal Book
Tsingy Tufted-tailed Rat	<i>Eliurus antsingy</i>	1078.127	No	Nowak 1999 Mammal Book
Tucumán Tuco-tuco	<i>Ctenomys tucumanus</i>	446.3577	No	Lacey & Ebensperger 2007 Rodent Societies
Tufted Capuchin	<i>Cebus apella</i>	1460.891	No	Nowak 1999 Mammal Book
Tufted Deer	<i>Elaphodus cephalophus</i>	879.8333	No	Nowak 1999 Mammal Book
Tufted Gray Langur	<i>Semnopithecus priam</i>	725.8991	No	Nowak 1999 Mammal Book
Tullberg's Praomys	<i>Praomys tullbergi</i>	420.1967	No	Nowak 1999 Mammal Book
Tundra Shrew	<i>Sorex tundrensis</i>	256.5542	No	Murariu & Benedek 2005 Grig Antip
Turbo Shrew	<i>Crocidura turba</i>	1280.72	No	Murariu & Benedek 2005 Grig Antip
Turkish Spiny Mouse	<i>Acomys cilicicus</i>	267.9652	No	Nowak 1999 Mammal Book
Udine Shrew	<i>Sorex arunchi</i>	564.8588	No	Murariu & Benedek 2005 Grig Antip
Ugandan Lowland Shrew	<i>Crocidura selina</i>	1162.333	No	Murariu & Benedek 2005 Grig Antip
Ugandan Musk Shrew	<i>Crocidura mutesae</i>	934.0847	No	Murariu & Benedek 2005 Grig Antip
Uinta Ground Squirrel	<i>Spermophilus armatus</i>	333.4556	No	Blumstein & Armitage 1999 Oikos
Ultimate Shrew	<i>Crocidura ultima</i>	1049.928	No	Murariu & Benedek 2005 Grig Antip
Unalaska Collared Lemming	<i>Dicrostonyx unalascensis</i>	423.2822	No	Nowak 1999 Mammal Book
Underwood's Pocket Gopher.	<i>Orthogeomys underwoodi</i>	1347.904	No	Goldman 1939 J Mamm
Ungava Collared Lemming	<i>Dicrostonyx hudsonius</i>	413.3918	No	Nowak 1999 Mammal Book
Unstriped Ground Squirrel	<i>Xerus rutilus</i>	243.2858	No	O'Shea 1991 Mammalian Species
Unstriped Tube-nosed Fruit Bat	<i>Paranyctimene raptor</i>	1350.176	No	Isaac et al. 2005
Upemba Shrew	<i>Crocidura zimmeri</i>	771.3322	No	Murariu & Benedek 2005 Grig Antip
Urar Calomyscus	<i>Calomyscus urartensis</i>	273.9916	No	Nowak 1999 Mammal Book
Ursine Colobus	<i>Colobus vellerosus</i>	1105.512	No	Nowak 1999 Mammal Book
Usambara Shrew	<i>Crocidura usambarae</i>	1122.8	No	Murariu & Benedek 2005 Grig Antip
Ussuri Shrew	<i>Sorex mirabilis</i>	550.6922	No	Murariu & Benedek 2005 Grig Antip

Ussuri White-toothed Shrew	<i>Crocidura lasiura</i>	535.3714	No	Murariu & Benedek 2005 Grig Antip
Uta Hick's Bearded Saki	<i>Chiropotes utahickae</i>	1295.241	No	Veiga et al. 2006 IJP
Vaal Rhebok	<i>Pelea capreolus</i>	329.0924	No	Nowak 1999 Mammal Book
Vagrant Shrew	<i>Sorex vagrans</i>	562.775	No	Murariu & Benedek 2005 Grig Antip
Val's Gundi	<i>Ctenodactylus vali</i>	93.31077	No	Nutt 2005 J Mamm
Valais Shrew	<i>Sorex antinorii</i>	425.0539	No	Murariu & Benedek 2005 Grig Antip
Van der Decken's Sifaka	<i>Propithecus deckenii</i>	654.8181	No	Richard 1974 Folia Primat
Van Sung's Shrew	<i>Chodsigoa caovansunga</i>	1014.201	No	Murariu & Benedek 2005 Grig Antip
Variable Flying Fox	<i>Pteropus hypomelanus</i>	1408.686	No	Isaac et al. 2005
Variable Pocket Gopher.	<i>Orthogeomys heterodus</i>	1275.552	No	Goldman 1939 J Mamm
Venezuelan Lowland Rabbit	<i>Sylvilagus varynaensis</i>	1259.162	No	Nowak 1999 Mammal Book
Verapaz Shrew	<i>Sorex veraepacis</i>	1094.169	No	Murariu & Benedek 2005 Grig Antip
Verreaux's Sifaka	<i>Propithecus verreauxi</i>	624.2435	No	Richard 1974 Folia Primat
Verschuren's Praomys	<i>Praomys verschureni</i>	1106.166	No	Nowak 1999 Mammal Book
Vicugna	<i>Vicugna vicugna</i>	393.0905	No	Nowak 1999 Mammal Book
Vietnam Mouse-deer	<i>Tragulus versicolor</i>	1354.258	No	Nowak 1999 Mammal Book
Villa's Gray Shrew	<i>Notiosorex villai</i>	930.7033	No	Murariu & Benedek 2005 Grig Antip
Vinogradov's Jerboa	<i>Allactaga vinogradovi</i>	299.4469	No	Randall 2007 Rodent societies book
Vinogradov's Jird	<i>Meriones vinogradovi</i>	192.7904	No	Randall 2007 Rodent Societies Book
Vipos Tuco-tuco	<i>Ctenomys viperinus</i>	687.2144	No	Lacey & Ebensperger 2007 Rodent Societies
Viscacha Rat	<i>Octomys mimax</i>	151.8987	No	Ebertsberger & Cofre 2001 BE
Voi Shrew	<i>Crocidura voi</i>	1058.443	No	Murariu & Benedek 2005 Grig Antip
Volcano Deermouse	<i>Neotomodon alstoni</i>	716.0271	No	Lopez 2007
Volcano Harvest Mouse	<i>Reithrodontomys chrysopsis</i>	782.7627	No	Nowak 1999 Mammal Book
Volcano Rabbit	<i>Romerolagus diazi</i>	707.6506	No	Cervantes et al. 1990
Volcano Shrew	<i>Sylvisorex vulcanorum</i>	952.7119	No	Murariu & Benedek 2005 Grig Antip

Voracious Shrew	<i>Crocidura vorax</i>	969.2286	No	Murariu & Benedek 2005 Grig Antip
Votsovotsa	<i>Hypogeomys antimena</i>	1357.543	pair bond	Sommer et al. 2001 BES
Wahlberg's Epauletted Fruit Bat	<i>Epomophorus wahlbergi</i>	1015.3	No	Acharya 1992 Mamm Sp
Walia	<i>Capra walie</i>	406.1914	No	Nowak 1999 Mammal Book
Wandering Small-eared Shrew	<i>Cryptotis montivaga</i>	1089.777	No	Murariu & Benedek 2005 Grig Antip
Water Chevrotain	<i>Hyemoschus aquaticus</i>	1357.6	No	Nowak 1999 Mammal Book
Water Opossum	<i>Chironectes minimus</i>	1227.577	No	Marshall 1978 Mamm Sp
Waterbuck	<i>Kobus ellipsiprymnus</i>	450.8652	No	Nowak 1999 Mammal Book
Waterhouse's Leaf-nosed Bat	<i>Macrotus waterhousii</i>	921.6387	No	Isaac et al. 2005
Waters's Gerbil	<i>Gerbillus watersi</i>	57.52601	No	Randall 2007 Rodent Societies Book
Weasel Lemur	<i>Lepilemur mustelinus</i>	1301.245	No	Nowak 1999 Mammal Book
Webb's Tufted-tailed Rat	<i>Eliurus webbi</i>	1286.476	No	Nowak 1999 Mammal Book
Welwitsch's Myotis	<i>Myotis welwitschii</i>	684.1	No	Nowak 1999 Mammal Book
West African Long-tailed Shrew	<i>Crocidura muricauda</i>	1247.8	No	Murariu & Benedek 2005 Grig Antip
West African Praomys	<i>Praomys rostratus</i>	474.2448	No	Nowak 1999 Mammal Book
West African Pygmy Shrew	<i>Crocidura obscurior</i>	1306.449	No	Murariu & Benedek 2005 Grig Antip
West European Hedgehog	<i>Erinaceus europaeus</i>	582.4729	No	Nowak 1999 Mammal Book
West Mexican Cotton Rat	<i>Sigmodon mascotensis</i>	985.1748	No	Nowak 1999 Mammal Book
Western Barbastelle	<i>Barbastella barbastellus</i>	579.6834	No	Russo et al. 2005 Ecograph
Western Colombian Small-eared Shrew	<i>Cryptotis squamipes</i>	886.8911	No	Murariu & Benedek 2005 Grig Antip
Western Dwarf Squirrel	<i>Microsciurus mimulus</i>	1056.649	No	Nowak 1999 Mammal Book
Western Gorilla	<i>Gorilla gorilla</i>	1192.65	No	Nowak 1999 Mammal Book
Western Gray Squirrel	<i>Sciurus griseus</i>	458.9917	No	Gregory et al. 2010
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>	700.7	No	Nowak 1999 Mammal Book
Western Heather Vole	<i>Phenacomys intermedius</i>	437.0237	No	Nowak 1999 Mammal Book
Western Jumping Mouse	<i>Zapus princeps</i>	386.0959	No	Nowak 1999 Mammal Book

Western Nesomys	<i>Nesomys lambertoni</i>	975.3135	No	Nowak 1999 Mammal Book
Western Palm Squirrel	<i>Epixerus ebii</i>	1243.95	No	Emmons 1978
Western Pebble-mound Mouse	<i>Pseudomys chapmani</i>	93.42295	No	Anstee et al. 1997 Wildl Res
Western Pocket Gopher.	<i>Thomomys mazama</i>	583.9944	No	Nowak 1999 Mammal Book
Western Puna Mouse	<i>Punomys lemminus</i>	560.8296	No	Nowak 1999 Mammal Book
Western Quoll	<i>Dasyurus geoffroii</i>	481.5	No	Serena & Soderquist 1989 J Zool
Western Red-backed Vole	<i>Myodes californicus</i>	741.2965	No	Alexander & Verts 1992 Mamm Sp
Western Rift Brush-furred Rat	<i>Lophuromys mediceaudatus</i>	1069.719	No	Nowak 1999 Mammal Book
Western Rock Elephant Shrew	<i>Elephantulus rupestris</i>	96.79693	pair bond	Rathbun & Rathbun 2006 J Zool
Western Saharan Spiny mouse	<i>Acomys airensis</i>	52.8925	No	Nowak 1999 Mammal Book
Western Small-footed Myotis	<i>Myotis ciliolabrum</i>	336.6685	No	Holloway & Barclay 2001 Mamm Sp
Western Spotted Skunk	<i>Spilogale gracilis</i>	460.5312	No	Verts et al. 2001
Western Tree Hyrax.	<i>Dendrohyrax dorsalis</i>	1090.42	No	Jones 1978 Mamm Sp
Western Tufted-tailed Rat	<i>Eliurus myoxinus</i>	617.7037	No	Nowak 1999 Mammal Book
Western Woolly Lemur	<i>Avahi occidentalis</i>	971.307	pair bond	Nowak 1999 Mammal Book
Weyns's Duiker	<i>Cephalophus weynsi</i>	854.0308	No	Nowak 1999 Mammal Book
Whiskered Myotis	<i>Myotis mystacinus</i>	548.0102	No	Nowak 1999 Mammal Book
Whitaker's Shrew	<i>Crocidura whitakeri</i>	101.0188	No	Murariu & Benedek 2005 Grig Antip
White Rhinoceros	<i>Ceratotherium simum</i>	12.82207	No	Pienaar 1994 Symposium proceedings
White-bellied Duiker	<i>Cephalophus leucogaster</i>	944.0846	No	Nowak 1999 Mammal Book
White-bellied Nesomys	<i>Nesomys audeberti</i>	1314.719	No	Nowak 1999 Mammal Book
White-cheeked Spider Monkey	<i>Ateles marginatus</i>	1222.254	No	Nowak 1999 Mammal Book
White-coated Titi	<i>Callicebus pallescens</i>	212.1277	pair bond	Kappeler 1999 Primate Communities Book
White-eared Cotton Rat	<i>Sigmodon leucotis</i>	584.6112	No	Nowak 1999 Mammal Book
White-eared Opossum	<i>Didelphis albiventris</i>	903.4532	No	Gentile & Cerqueira 1995 J Trop Ecol
White-eared Pocket Mouse	<i>Perognathus alticolus</i>	251.0219	No	Jones 1985 J Mamm

White-eared Titi	<i>Callicebus donacophilus</i>	1090.455	pair bond	Kappeler 1999 Primate Communities Book
White-faced Spiny Tree-rat	<i>Echimyus chrysurus</i>	1421.078	No	Nowak 1999 Mammal Book
White-footed Deermouse	<i>Peromyscus leucopus</i>	567.692	No	Lackey et al. 1985 Mamm Sp
White-footed Saki	<i>Pithecia albicans</i>	1364.757	pair bond	Norconk 2007 book chapter
White-footed Sportive Lemur	<i>Lepilemur leucopus</i>	718.0074	No	Nowak 1999 Mammal Book
White-footed Tamarin	<i>Saguinus leucopus</i>	1306.663	pair bond	Porter 2001 Folia Primat
White-fronted Langur	<i>Presbytis frontata</i>	1232.5	No	Nowak 1999 Mammal Book
White-fronted Spider Monkey	<i>Ateles belzebuth</i>	1301.291	No	Nowak 1999 Mammal Book
White-headed Langur	<i>Trachypithecus poliocephalus</i>	1213.41	No	Kappeler 1999 Primate Communities Book
White-headed Marmoset	<i>Callithrix geoffroyi</i>	943.7817	pair bond	Fernandez-Duque et al. 2012
White-lipped Peccary	<i>Tayassu pecari</i>	619.3382	No	Fragoso 1998 Biotrop
White-lipped Tamarin	<i>Saguinus labiatus</i>	1378.743	pair bond	Porter 2001 Folia Primat
White-mantled Tamarin	<i>Saguinus melanoleucus</i>	1382.238	pair bond	Porter 2001 Folia Primat
White-nosed Coati	<i>Nasua narica</i>	1411.09	No	Hass & Valenzuela BES 2002
White-nosed Saki	<i>Chiropotes albinasus</i>	1258.94	No	Veiga et al. 2006 IJP
White-sided Jackrabbit	<i>Lepus callotis</i>	660.8964	No	Nowak 1999 Mammal Book
White-spined Atlantic Spiny-rat	<i>Trinomys albispinus</i>	932.2306	No	Manaf et al. 2003 Phys Behav
White-stripped Free-tailed Bat	<i>Tadarida australis</i>	718.5	No	Rhodes et al. 2006 Con Biol
White-tailed Antelope Squirrel	<i>Ammospermophilus leucurus</i>	182.5075	No	Belk & Smith 1991 Mammal Sp
White-tailed Antsangy.	<i>Brachytarsomys albicauda</i>	1205.645	No	Nowak 1999 Mammal Book
White-tailed Deer	<i>Odocoileus virginianus</i>	1061.65	No	Nowak 1999 Mammal Book
White-tailed Jackrabbit	<i>Lepus townsendii</i>	407.7369	No	Nowak 1999 Mammal Book
White-tailed Mongoose	<i>Ichneumia albicauda</i>	798.1667	No	Dalerum 2007
White-tailed Prairie Dog	<i>Cynomys leucurus</i>	271.7292	No	Blumstein & Armitage 1999 Oikos
White-tailed titi	<i>Callicebus discolor</i>	1420.947	pair bond	Kappeler 1999 Primate Communities Book
White-thighed Surili	<i>Presbytis siamensis</i>	1217.759	No	Nowak 1999 Mammal Book

White-throated Guenon	<i>Cercopithecus erythrogaster</i>	1133.003	No	Nowak 1999 Mammal Book
White-throated Woodrat	<i>Neotoma albigula</i>	75.1	No	Nowak 1999 Mammal Book
White-tipped Tufted-tailed Rat	<i>Eliurus penicillatus</i>	1289.198	No	Nowak 1999 Mammal Book
White-toothed Tuco-tuco	<i>Ctenomys leucodon</i>	507.6865	No	Lacey & Ebensperger 2007 Rodent Societies
White-toothed Woodrat	<i>Neotoma leucodon</i>	296.386	No	Nowak 1999 Mammal Book
Wied's Marmoset	<i>Callithrix kuhlii</i>	1564.7	pair bond	Fernandez-Duque et al. 2012
Wild Boar	<i>Sus scrofa</i>	938.7	No	Kaminski et al. 2005 Can J Zool
Wildcat	<i>Felis silvestris</i>	84.83291	No	Dalerum 2007
Williams's Jerboa	<i>Allactaga williamsi</i>	305.136	No	Randall 2007 Rodent societies book
Williamson's Mouse-deer	<i>Tragulid williamsoni</i>	1279.858	No	Nowak 1999 Mammal Book
Wilson's Spiny mouse	<i>Acomys wilsoni</i>	638.9126	No	Nowak 1999 Mammal Book
Wimmer's Shrew	<i>Crocidura wimmeri</i>	1321.383	No	Murariu & Benedek 2005 Grig Antip
Woermann's Long-tongued Fruit Bat	<i>Megaloglossus woermanni</i>	968.8	No	Isaac et al. 2005
Wolf	<i>Canis lupus</i>	310.0999	pair bond	Dalerum 2007
Wolffsohn's Mountain Viscacha	<i>Lagidium wolffsohni</i>	440.763	No	Nowak 1999 Mammal Book
Wolverine	<i>Gulo gulo</i>	230.0256	No	Dalerum 2007
Wood Lemming	<i>Myopus schisticolor</i>	314.4219	No	Nowak 1999 Mammal Book
Woodchuck	<i>Marmota monax</i>	397.2279	No	Allaine 2000
Woodland Jumping Mouse	<i>Napaeozapus insignis</i>	502.249	No	Nowak 1999 Mammal Book
Woodland Vole	<i>Microtus pinetorum</i>	760.8207	pair bond	Solomon & Getz 1997 book chapter
Woodlark Cuscus	<i>Phalanger lullulae</i>	1433.722	No	Norris 1999 Mamm Sp
Woolly False Vampire Bat	<i>Chrotopterus auritus</i>	899.8618	pair bond	Isaac et al. 2005
Woolly Hare	<i>Lepus oiostolus</i>	388.549	No	Nowak 1999 Mammal Book
Woolly Horseshoe Bat	<i>Rhinolophus luctus</i>	1271.384	pair bond	Isaac et al. 2005
Woosnam's Brush-furred Rat	<i>Lophuromys woosnami</i>	852.8506	No	Nowak 1999 Mammal Book
Wrangel Island Collared Lemming	<i>Dicrostonyx vinogradovi</i>	267.9015	No	Nowak 1999 Mammal Book

Wyoming Pocket Gopher.	<i>Thomomys clusius</i>	227.641	No	Nowak 1999 Mammal Book
Xanthippe's Shrew	<i>Crocidura xantippe</i>	436.343	No	Murariu & Benedek 2005 Grig Antip
Xeric Four-striped Grass Rat	<i>Rhabdomys pumilio</i>	296.4555	No	Nowak 1999 Mammal Book
Yankari Shrew	<i>Crocidura yankariensis</i>	357.2198	No	Murariu & Benedek 2005 Grig Antip
Yarkand Hare	<i>Lepus yarkandensis</i>	187.3181	No	Nowak 1999 Mammal Book
Yellow Baboon	<i>Papio cynocephalus</i>	904.8207	No	Nowak 1999 Mammal Book
Yellow Mongoose	<i>Cynictis penicillata</i>	108.9968	pair bond	Dalerum 2007
Yellow Steppe Lemming	<i>Eolagurus luteus</i>	242.5552	pair bond	Evsikov et al. 2006 Dok Biol Sci
Yellow-backed Duiker	<i>Cephalophus silvicultor</i>	742.7479	No	Nowak 1999 Mammal Book
Yellow-bellied Marmot	<i>Marmota flaviventris</i>	329.2479	No	Allaine 2000
Yellow-necked Field Mouse	<i>Apodemus flavicollis</i>	532.6699	No	Nowak 1999 Mammal Book
Yellow-nosed Cotton Rat	<i>Sigmodon ochrognathus</i>	133.4918	No	Nowak 1999 Mammal Book
Yellow-pine Chipmunk	<i>Tamias amoenus</i>	410.0082	No	Sutton 1992 Mammal Sp
Yellow-rumped Pericote	<i>Phyllotis xanthopygus</i>	286.9728	No	Kramer et al. 1999 Mamm Sp
Yellow-spotted Rock Hyrax.	<i>Heterohyrax brucei</i>	886.1812	No	Barry & Shoshani 2000 Mamm Sp
Yellow-tailed Woolly Monkey	<i>Oreonax flavicauda</i>	1251.629	No	Shanee & Shanee 2011
Yellow-throated Marten	<i>Martes flavigula</i>	1374.4	No	Dalerum 2007
Yellow-winged Bat	<i>Lavia frons</i>	879.9	pair bond	Vonhof & Kalcounis 1999 Mamm Sp
Yepes's Mulita	<i>Dasyopus yepesi</i>	386.434	No	Rose & Gaudin 2010 Enc of Life Sciences
Yolanda's Tuco-tuco	<i>Ctenomys yolandae</i>	505.5788	No	Lacey & Ebensperger 2007 Rodent Societies
Yonenaga's Atlantic Spiny-rat	<i>Trinomys yonenagae</i>	583.2358	No	Ebensperger & Blumstein 2006 BE
Yucatán Deermouse	<i>Peromyscus yucatanicus</i>	1341.66	No	Kirkland & Layne 1989 book
Yucatan Small-eared Shrew	<i>Cryptotis mayensis</i>	1336.215	No	Murariu & Benedek 2005 Grig Antip
Yungas Hocicludo	<i>Oxymycterus paramensis</i>	599.9025	No	Nowak 1999 Mammal Book
Yunnan Hare	<i>Lepus comus</i>	757.8644	No	Nowak 1999 Mammal Book
Zacatecan Harvest Mouse	<i>Reithrodontomys zacatecae</i>	467.3137	No	Nowak 1999 Mammal Book

Zagros Mountains Calomyscus	Calomyscus bailwardi	132.017	No	Nowak 1999 Mammal Book
Zaphir's Shrew	Crocidura zaphiri	1017.287	No	Murariu & Benedek 2005 Grig Antip
Zarudny's Jird	Meriones zarudnyi	141.6661	No	Randall 2007 Rodent Societies Book
Zarudny's Rock Shrew	Crocidura zarudnyi	151.2122	No	Murariu & Benedek 2005 Grig Antip
Zebra Duiker	Cephalophus zebra	1313.874	No	Nowak 1999 Mammal Book

Appendix B

Paternal certainty and productivity of selected studies

species	male strategy	%EPP or non dominate male	paternal certainty	behavioral index	Monogamy index	EVT	location	Citation
<i>Peromyscus californicus</i>	monogamy	0	100	1	100	288.4	Carmel Valley CA	Ribble (1991)
<i>Crocidura russula</i>	monogamy	0	100	1	100	514.2	university campus of LausanneDorigny (6° 34'E, 46° 31'N and 400 m above sea level)	Boutellier & Perrin (2000)
<i>Madoqua kirkii</i>	monogamy	0	100	100	100	245.6	Etosha National Park, Namibia (18°50'S, 16°57'E)	Brotherton <i>et al.</i> (1997)
<i>Aotus azarae</i>	monogamy	0	100	1	100	313.3	Formosa in the Argentinean Gran Chaco of South America (-58°11' W, -25°58' S)	Huck (2014)
<i>Hypogeomys antinena</i>	monogamy	4.2	95.8	1	95.8	490.6	Kirindy Forest (20°03' S, 44°39' E), western Madagascar	Sommer (2003)
<i>Otocyon megalons</i>	monogamy	8	92	1	92	315.7	Laikipia, central Kenya (0°63'N, 36°50'E)	Wright <i>et al.</i> (2010)
<i>Haplolemur griseus</i>	monogamy	8.7	91.3	1	91.3	613.7	Andreba village at Lac Alaotra in Madagascar (17137.8660 S, 48130.1610 E)	Nievergelt <i>et al.</i> (2002)
<i>Lycyon pictus</i>	monogamy	10.3	89.7	1	89.7	300.1	Kruger National Park, Republic of South Africa	Girman <i>et al.</i> (1997)
<i>Tarsius lariang</i>	monogamy	16	84	1	84	1149.6	Central Sulawesi, Indonesia (1°46'S, 119°55'E)	Driller <i>et al.</i> (2009)
<i>Suricata suricatta</i>	monogamy	17	83	1	83	42.9	South African Kalahari basin, Kalahari Gemsbok National Park	Griffin <i>et al.</i> (2003)
<i>Marmota marmota</i>	monogamy	20	80	1	80	457.9	berchtesgaden alps	Arnold (1990)
<i>Helogale parvula</i>	monogamy	24	76	1	76	722.5	sangere river, serengeti national park tanzania	Keane <i>et al.</i> (1994)
<i>Urocyon littoralis</i>	monogamy	25	75	1	75	699.4	Fraser Point, Santa Cruz Island, California	Roemer <i>et al.</i> (2001)
<i>Canis simensis</i>	monogamy	28	72	1	72	885.7	Bale Mountains southeast Ethiopia	Randall (2007)
<i>Cryptomys hottentotus</i>	monogamy	30	70	1	70	711.9	Sir Lowry's Pass (18°55'E, 34°07'S) in the Western Cape, South Africa	Bishop <i>et al.</i> (2007)
<i>Marmota marmota</i>	monogamy	30.9	69.1	1	69.1	853.5	La Grande Sassiére Nature Reserve, Vanoise National Park (French Alps, 45°29'N, 6°59'E).	Cohas <i>et al.</i> (2006)
<i>Trichosurus cunninghami</i>	monogamy	35	65	1	65	979.9	Boho South in the Strathbogie Ranges, north-eastern Victoria, Australia	Martin (2007)
<i>Cheirogaleus medius</i>	monogamy	43.8	56.2	1	56.2	490.6	Kirindy Forest Madagascar (60 km north east of Morondava)	Fietz <i>et al.</i> (2000)
<i>Castor canadensis</i>	monogamy	50	50	1	50	971.8	southern Illinois in the Union County Conservation Area	Crawford <i>et al.</i> (2008)
<i>Alouatta seniculus</i>	polygyny	0	100	0.5	50	1058.9	Hato Masaguaral, a wildlife preserve, central llanos of Venezuela	Pope (1990)
<i>Tupaia tana</i>	monogamy	50	50	1	50	1597	Danum Valley Conservation Area, Sabah, Malaysia (Danum; 4°58'N, 117°48'E)	Munshi-South (2007)
<i>Vulpes Velox</i>	monogamy	52	48	1	48	812.8	(Piñon Canyon Maneuver Site, PCMS, 37.52°N, 104.22°W) in Las Animus County, northeast of Trinidad, Colorado, U.S.A.	Kitchen <i>et al.</i> (2006)
<i>Ursus arctos</i>	polygyny	12	88	0.5	44	1044.7	south-eastern Norway (61°N, 18°E)	Bellemin <i>et al.</i> (2006)
<i>Gorilla beringei beringei</i>	polygyny	15	85	0.5	42.5	1468.6	Karisoke Research Center, Volcanoes National Park	Bradley <i>et al.</i> (2005)

<i>Ursus arctos</i>	polygyny	18	82	0.5	41	719.1	northern Sweden (67°N, 18°E)	Bellemain et al (2006)
<i>Pecari tajacu</i>	polygyny	19	81	0.5	40.5	227.6	Weider Wildlife Refuge and Big Bend Ranch State Park Texas	Cooper (2011)
<i>Lepus americanus</i>	polygyny	25	75	0.5	37.5	811.8	Kluane Lake, Yukon Territory (61° N, 138° W)	Burton (2002)
<i>Mandrillus sphinx</i>	polygyny	26.7	73.3	0.5	36.65	518.8	Franceville, Gabon	Wickings et al. (1993)
<i>Macaca fascicularis</i>	polygyny	28.9	71.1	0.5	35.55	1577.2	Ketambe Research Area Indonesia	de Ruiter et al. (1994)
<i>Eulemur fulvus rufus</i>	polygyny	29	71	0.5	35.5	1342.7	60 km northeast of Morondava, western Madagascar	Kappeler and Port (2008)
<i>Dipodomys spectabilis</i>	polygyny	36	64	0.5	32	413.1	southeastern corner of Arizona (31°37' N, 109°15' W)	Winters and Waser (2003)
<i>Cynocephalus sphinx</i>	polygyny	36	64	0.5	32	1024	Pune, Maharashtra, India (18°32'N, 73°51'E)	Storz et al (2001)
<i>Marmota monax</i>	polygyny	37	63	0.5	31.5	1229.8	Gililand Farm in Falmouth, Maine (43°42'N, 70°14'W)	Maher and Duron (2010)
<i>Rhinolophus ferrumequinum</i>	polygyny	39	61	0.5	30.5	1849.5	Stroud, Gloucestershire, England (51°2'N, 2°90'W)	Rossiter et al (2006)
<i>Erinaceus europaeus</i>	polygyny	40	60	0.5	30	1763.9	Devon and Jersey UK	Moran et al (2009)
<i>Sennopihecus entellus</i>	polygyny	43	57	0.5	28.5	1347.1	Ramnagar Nepal 27° 44' N, 84° 27' E	Launhardt et al. (2001)
<i>Acinonyx jubatus</i>	polygyny	43	57	0.5	28.5	914.9	Serengeti National Park in Tanzania	Gotelli (2007)
<i>Antilocapra americana</i>	polygyny	44	56	0.5	28	661.2	National Bison Range in NW Montana	Carling et al (2003)
<i>Cryptomys hottentotus</i>	polygyny	44.9	55.1	0.5	27.55	915	Somerset West, Western Cape Province, South Africa, 34°07'-S, 18°55'-E; site 2: Steinkopf, Northern Cape Province, South Africa, 29°20'-S, 17°50'-E	Bishop et al. (2004)
<i>Ariteus jamaicensis</i>	polygyny	45	55	0.5	27.5	1434.8	Akil (20°14' N, 89°22' W) and Murciélagos (20°09' N, 89°13' W) Yucatan Peninsula	Ortega et al. (2003)
<i>Lasiopodomys brandtii</i>	polygyny	46	54	0.5	27	562.5	30 km east of Xilinhot, Inner Mongolia, China (N44°9', E116°24')	Hou et al (2010)
<i>Panthera leo</i>	polygyny	47	53	0.5	26.5	441	Etosha National Park	Lyke (2013)
<i>Aepyprymus rufescens</i>	polygyny	50	50	0.5	25	1415.2	Mt. Fox (145°46'E; 18°50'S) west of Ingham in north Queensland	Pope et al (2005)
<i>Marmota marmota</i>	polygyny	52.5	47.5	0.5	23.75	838.9	Ruby Ranges of the southwest Yukon Territory, Canada (138°W, 62°N), approximately 30 km from the Arctic Institute of North America (AINA) research base.	Kyle et al 2007
<i>Nasua nasua</i>	polygyny	53	47	0.5	23.5	1344	Iguazu National Park, Argentina (54°W, 26°S)	Hirsch and Maldonado (2011)
<i>Microtus ochrogaster</i>	monogamy	56	44	0.5	22	941.3	Phillips Tract, Urbana, Illinois	Solomon et al (2004)
<i>Brachylagus idahoensis</i>	polygyny	60	40	0.5	20	544.9	Lemhi Valley Idaho	Falcón (2001)
<i>Microcebus murinus</i>	polygyny	65	35	0.5	17.5	494.6	Kirindy Forest, located about 60 km northeast of Morondava in western Madagascar	Eberly and Kappeler (2004)
<i>Saccoteryx bilineata</i>	polygyny	69.9	30.1	0.5	15.05	1455.8	La Selva field station (10°20' N, 84°10' W) of the Organization for Tropical Studies, Costa Rica.	Heckel & von Helversen (2003)
<i>Apodemus flavicollis</i>	polygyny	70	30	0.5	15	1154.7	Mazury Landscape Park, north-eastern Poland (21°E, 53°N)	Gryczynska-Stemiatkowska et al (2008)
<i>Urocyon columbianus</i>	polygyny	72	28	0.5	14	533.1	Sheep River Wildlife Sanctuary in the Rocky Mountains of Alberta, Canada (50°38'N, 114°38'W)	Jones et al (2012)
<i>Ovis aries</i>	polygyny	73	27	0.5	13.5	667.1	Hirta, St Kilda, UK	Colman (1999)

<i>Dasyurus maculatus</i>	polygyny	73	27	0.5	13.5	1566.8	Chaelundi State Forests in north-eastern New South Wales, Australia (30°07'S, 152°23'E)	Glenn et al (2009)
<i>Dipodomys spectabilis</i>	polygyny	81	19	0.5	9.5	603.6	SE Arizona (31°37'N, 109°15'W)	Waser and Woody (2007)
<i>Macaca mulatta</i>	polygyny	86.7	13.3	0.5	6.65	1645.4	Cayo Santiago (18° 09' N, 65° 44' W)	Berard et al. (1994)
<i>Procyon lotor</i>	polygyny	88	12	0.5	6	836.7	Union County Conservation Area, Illinois USA	Nielson and Nielson (2007)
<i>Tamias amoenus</i>	polygyny	92	8	0.5	4	993.7	Kananaskis Valley, Alberta, Canada (51°N, 115°W)	Schulte-Hostedde (2004)

Appendix C

Placental scarring rates among female coyotes by age class

State	Location	Percentage of females reproductive			Citation
		Season 1	Season 2	Season 3+	
California	40.11°N, 122.04°W	17	62	92	Sacks, 2005
Illinois	South eastern region	44	56	88	Mahan & Mahan, 2007
North Carolina	Wake and Chatham Counties	39	59	95	
Alberta	Central region	32	51	94	Nellis, 1976
Kansas	Statewide survey	15	0	36	Gier, 1968
New Brunswick	Eastern region	0	0	35	Dummond & Villard 2000
Texas	Webb County	2	42	49	Windberg, 1995
Utah	Curlew Valley	41	43	53	Knudsen, 1976

Appendix D

Paternity of voles among feeding regimes

ad lib./fortified															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source
10542	17	4	1.25	20541	37	6	2.17	30541	18	4	1.50	40541	25	4	1.75
11022	16	3	2.00	20544	10	2	2.50	30452	8	2	1.50	40543	17	3	2.33
11567	29	5	1.60	21022	21	4	1.75	31021	31	5	2.00	41022	18	3	2.33
11574	8	3	1.33	21024	18	4	1.50	31022	25	5	1.60	41571	12	2	1.50
11583	9	2	2.00	21573	23	4	1.75	31572	27	5	1.40	41573	20	4	2.00
11594	16	4	1.00	21574	22	3	1.67	31573	28	5	1.80	41581	14	3	1.00
14402	20	3	2.00	21581	27	5	1.40	31584	9	3	1.67	41592	8	2	2.00
14412	11	2	1.50	21593	18	3	1.33	31585	18	3	2.00	44402	2	1	1.00
14942	5	1	2.00	21594	24	5	1.40	31592	22	4	1.75	45052	16	3	1.67
15053	24	4	2.00	24404	20	3	1.67	31593	24	4	1.75	45054	4	1	2.00
15112	24	5	1.40	24415	9	2	1.50	34401	11	2	1.50	45112	11	2	1.50
15124	15	3	2.33	25053	9	2	2.00	34402	21	4	1.75	45113	11	3	1.67
15393	24	5	1.60	25113	23	4	1.25	35051	18	3	2.33	45514	22	4	1.25
15403	12	2	2.50	25115	19	4	1.75	35112	19	3	1.33	45121	20	3	2.00
15462	15	3	1.33	25121	14	3	1.67	35514	10	2	2.00	45122	21	4	1.75
15471	20	3	2.00	25392	11	2	1.00	35123	20	4	1.75	45392	23	4	1.75
15575	17	3	1.33	25405	20	4	1.50	35391	23	4	1.50	45393	15	3	1.67
15651	23	4	2.00	25406	24	4	1.25	35401	16	3	1.67	45402	22	3	2.33
15782	18	4	1.75	25471	30	5	1.40	35473	19	4	1.50	45403	13	2	2.50
15793	7	2	1.50	25474	18	4	1.50	35474	7	2	1.00	45404	12	3	1.67
mean pup	16.50			mean pup	19.85			mean pup	18.70			mean pup	15.30		
mean litter	3.211			mean litter	3.650			mean litter	3.550			mean litter	2.850		
mean paternity	1.732			mean paternity	1.598			mean paternity	1.665			mean paternity	1.783		

ad lib./unfortified															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source
12372	19	4	1.75	22373	22	4	1.50	32371	17	3	1.67	42371	13	3	1.33
12384	20	4	2.25	22381	16	4	1.75	32383	15	4	1.50	42383	11	3	1.33
12561	16	3	2.00	22562	23	4	1.25	32564	20	4	1.50	42562	14	3	1.67
12622	21	5	1.40	22621	20	5	1.40	32622	19	4	1.50	42623	26	4	2.00
12663	21	4	1.50	22664	8	2	1.50	32661	17	4	1.25	42662	16	3	1.67
12701	22	4	1.50	22702	17	3	1.33	32701	22	4	1.50	42703	12	3	1.67
12725	22	4	2.00	22722	28	4	2.25	32723	18	3	1.00	42725	15	2	2.00
12818	15	3	1.67	22811	21	4	1.75	32811	13	3	1.00	42812	14	4	1.50
12883	11	2	1.50	22882	24	4	1.75	32883	20	4	1.25	42883	12	3	1.67
13052	14	3	1.33	23054	21	4	2.00	33052	21	4	1.75	43052	21	4	2.00
13153	13	3	2.00	23156	18	3	2.00	33151	17	3	1.67	43154	16	3	1.33
13115	16	3	1.67	23112	14	3	1.33	33113	12	3	1.67	43117	14	4	1.00
13121	23	4	1.50	23124	20	4	2.00	33125	11	3	1.67	43123	21	4	1.75
13174	15	3	2.33	23173	23	5	1.20	33172	12	3	1.00	43172	18	3	1.67
14192	14	3	1.33	24193	31	5	2.00	34191	20	4	1.75	44194	21	3	1.33
14252	23	4	1.75	24251	29	5	1.60	34253	14	4	1.25	44253	15	3	1.33
14465	15	3	1.00	24462	11	2	1.50	34461	15	3	1.33	44461	17	3	1.67
17736	22	4	2.00	27731	18	3	2.33	37732	10	3	1.33	47732	7	2	1.50
17852	18	4	1.50	27853	15	2	2.00	37854	15	3	1.67	47854	16	3	1.67
18821	32	5	1.80	28821	25	4	1.75	38822	10	3	1.67	48821	13	3	1.67
mean pup	18.600			mean pup	20.200			mean pup	15.900			mean pup	15.600		
mean litter	3.579			mean litter	3.700			mean litter	3.450			mean litter	3.150		
mean paternity	1.655			mean paternity	1.710			mean paternity	1.446			mean paternity	1.588		

restricted/fortified															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source
12381	7	3	1.33	22382	9	5	1.20	32382	5	2	1.50	42384	9	3	1.33
12823	11	4	1.25	22825	4	2	1.00	32823	7	3	1.00	42822	5	2	1.50
13462	3	1	1.00	23462	8	3	1.00	33464	7	3	1.00	43462	3	2	1.00
13892	8	3	1.00	23894	8	2	1.50	33891	5	2	2.00	43891	6	3	1.33
14181	11	4	1.25	24186	5	3	1.00	34181	3	2	1.00	44181	5	2	1.50
14292	5	3	1.00	24295	10	3	1.33	34295	6	3	1.00	44294	11	4	1.25
14353	8	3	1.33	24354	10	4	1.00	34354	7	3	1.33	44356	4	2	1.00
14401	6	2	1.00	24402	11	4	1.00	34401	7	2	1.00	44402	10	3	1.33
14503	6	3	1.00	24504	3	2	1.00	34504	7	3	1.33	44502	6	3	1.00
15793	5	3	1.33	25795	6	3	1.33	35791	8	3	1.00	45793	8	3	1.33
16841	11	4	1.25	26841	2	2	1.00	36844	6	2	1.00	46840	6	3	1.00
17112	9	4	1.00	27111	5	2	1.00	37113	5	2	1.00	47111	7	2	1.50
17203	8	4	1.50	27202	6	3	1.33	37206	7	2	1.50	47205	10	3	1.67
17511	13	5	1.20	27512	9	3	1.00	37510	7	2	1.50	47513	5	3	1.00
17574	16	4	1.75	27577	11	3	1.00	37575	5	2	1.00	47573	4	3	1.00
17752	11	4	1.25	27751	5	2	1.00	37751	8	3	1.00	47752	6	2	1.00
17832	5	3	1.00	27832	2	2	1.00	37831	8	3	1.00	47832	5	2	1.00
18484	18	5	1.20	28484	8	3	1.33	38486	4	2	1.00	48487	8	3	1.00
18761	10	3	1.33	28764	3	2	1.00	38762	3	2	1.00	48762	10	3	1.33
19023	4	2	1.00	29026	5	3	1.33	39023	7	3	1.00	49022	9	3	1.33
mean pup	8.750			mean pup	650			mean pup	6100			mean pup	6850		
mean litter	3.368			mean litter	280			mean litter	2450			mean litter	2700		
mean paternity	1.189			mean paternity	1.118			mean paternity	1.158			mean paternity	1.221		

restricted/unfortified															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	paternity source	female	pups	litters	paternity source	female	pups	litters	paternity source	female	pups	litters	paternity source
12093	12	3	1.00	22092	10	3	1.00	36785	14	4	1.00	46781	6	3	1.33
12205	7	3	1.33	22206	6	3	1.00	35843	6	3	1.00	45842	9	3	1.00
13097	6	2	1.50	23094	7	3	1.00	34726	9	3	1.00	44726	6	2	1.00
13461	6	3	1.33	23461	10	4	1.00	33715	6	3	1.00	43715	16	7	1.14
13674	6	3	1.33	23674	9	3	1.00	32202	5	3	1.00	42202	6	3	1.00
13714	6	2	1.00	23713	2	2	1.00	33461	7	3	1.00	43461	6	3	1.00
13715	4	2	1.00	23716	5	3	1.00	33713	6	2	1.00	43715	16	7	1.14
14286	6	3	1.33	24285	9	4	1.25	35462	4	3	1.00	45461	8	4	1.00
14724	5	2	1.50	24721	7	3	1.00	36921	14	4	1.00	46925	8	3	1.00
14915	5	3	1.00	24911	6	3	1.00	33091	11	3	1.00	43096	4	2	1.00
15462	9	3	1.00	25464	8	3	1.00	34282	11	4	1.00	44286	12	4	1.00
15742	6	2	1.50	25744	3	2	1.00	36453	7	3	1.00	46455	2	2	1.00
15843	5	2	1.00	25843	7	3	1.33	35745	8	3	1.33	45745	7	3	1.00
16173	9	3	1.00	26171	6	3	1.00	33673	11	3	1.00	43674	2	2	1.00
16454	5	2	1.00	26456	9	3	1.00	36172	6	3	1.00	46171	6	2	1.00
16763	5	2	1.00	26762	10	3	1.00	36761	9	3	1.33	46762	8	4	1.00
16786	5	3	1.00	26785	9	3	1.33	34914	10	3	1.00	44914	9	3	1.33
16815	5	2	1.00	26816	9	3	1.00	32094	7	3	1.33	42093	8	4	1.00
16925	11	3	1.33	26924	6	3	1.00	37085	14	4	1.25	47083	11	3	1.33
17084	8	3	1.00	27082	8	3	1.00	36813	7	3	1.00	46814	6	2	1.50
mean pup	5.50			mean pup	7.300			mean pup	8.600			mean pup	7.800		
mean litter	2.526			mean litter	3.000			mean litter	3.150			mean litter	3.300		
mean paternity	1.157			mean paternity	1.046			mean paternity	1.063			mean paternity	1.089		

ad lib./alfalfa															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source
12176	15	2	1.50	22172	14	3	1.33	34393	18	4	1.25	44396	16	3	1.33
12402	22	4	1.25	22402	14	3	1.33	36962	7	2	1.00	46964	8	2	1.50
12684	18	3	1.67	22681	11	2	1.50	37013	12	2	1.50	47012	24	4	1.50
13125	21	4	1.50	23124	11	3	1.00	36895	17	4	1.00	46892	17	3	1.33
13514	20	4	1.50	23512	17	3	1.33	33516	7	2	1.00	43512	10	2	1.00
14392	11	3	1.33	24392	13	3	1.33	37734	22	3	1.33	47735	18	3	1.67
14484	11	2	1.50	24481	18	4	1.25	32683	15	3	1.33	42685	14	3	1.67
15191	8	2	2.00	25194	17	3	1.33	36256	11	2	1.50	46254	11	2	1.50
15666	10	2	1.50	25663	13	2	1.50	37994	23	4	1.50	47994	12	3	1.00
15946	7	2	1.50	25941	13	2	1.50	34481	12	3	1.33	44485	7	2	2.00
16252	24	3	1.67	26251	18	3	1.33	32405	15	3	1.00	42406	10	2	1.50
16811	12	2	1.50	26812	11	2	1.50	33122	16	3	2.00	43124	12	3	1.33
16896	10	3	1.67	26891	14	3	1.33	37086	24	4	1.75	47085	12	2	2.00
16964	9	2	2.00	26964	19	3	1.33	37522	12	3	1.67	47525	18	3	2.00
17011	13	3	1.67	27013	23	4	1.50	35941	9	2	1.00	45942	14	2	2.00
17084	17	3	1.33	27084	13	2	1.00	32175	15	3	1.67	42172	12	2	1.50
17095	8	2	1.00	27091	10	2	1.50	36814	11	3	1.33	46813	21	3	1.67
17526	24	4	1.50	27526	10	2	1.50	37096	10	2	2.00	47092	10	2	1.00
17731	20	3	1.67	27735	18	3	2.00	35665	15	3	1.67	45666	18	3	1.67
17992	12	3	1.33	27996	12	3	1.00	35192	9	2	1.50	45194	16	3	1.33
mean pup	4.600			mean pup	4.450			mean pup	4.000			mean pup	4.000		
mean litter	2.842			mean litter	2.750			mean litter	2.850			mean litter	2.600		
mean paternity	1.546			mean paternity	1.371			mean paternity	1.417			mean paternity	1.525		

restricted/alfalfa															
generation 1				generation 2				generation 3				generation 4			
female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source	female	pups	litters	\bar{x} paternity source
12665	3	2	1.00	22667	9	3	1.33	37603	11	4	1.50	47603	6	3	1.33
12715	8	3	1.50	22715	7	3	1.50	34626	6	3	1.33	44623	4	2	1.00
12817	6	3	1.33	22812	6	3	1.50	38316	9	3	1.33	48314	7	2	1.50
13422	9	3	1.33	23423	9	4	1.50	35815	2	2	1.00	45813	10	3	1.33
13866	6	3	1.67	23863	8	3	1.00	32713	8	3	1.33	42711	5	2	1.00
14394	6	2	1.00	24396	5	2	1.00	38671	9	3	1.33	48672	6	3	1.33
14624	6	2	1.33	24623	12	4	1.50	38066	6	2	1.50	48065	6	3	1.00
15025	7	3	1.33	25023	5	3	1.25	33421	8	3	1.00	43427	9	3	1.67
15161	5	2	1.00	25165	7	3	1.00	35782	3	2	1.00	45783	7	2	1.50
15783	7	3	1.00	25787	10	3	1.00	37267	3	2	1.00	47263	4	3	1.00
15813	9	3	1.00	25816	13	4	1.33	35996	4	3	1.00	45992	8	3	1.33
15993	4	2	1.00	25996	8	3	1.00	35024	10	3	1.33	45021	8	3	1.00
17194	7	3	1.50	27193	7	2	1.33	35166	6	2	2.00	45163	6	2	1.50
17266	3	2	1.33	27263	4	2	1.00	32817	6	3	1.33	42816	6	3	1.33
17607	4	3	1.00	27601	7	3	1.00	38016	3	2	1.00	48012	5	3	1.00
18014	10	3	1.50	28016	4	2	1.33	39007	8	3	1.33	49005	4	2	1.50
18064	10	3	1.00	28067	4	2	1.00	32662	6	3	1.00	42663	4	2	1.00
18317	7	3	1.00	28314	7	2	1.00	34394	5	2	1.50	44394	6	3	1.00
18677	4	2	1.00	28677	8	3	1.00	37196	7	3	1.33	47193	6	3	1.00
19005	5	2	1.00	29005	8	3	1.33	33863	4	2	1.00	43861	8	4	1.25
mean pup	6.300			mean pup	7.400			mean pup	6.200			mean pup	6.250		
mean litter	2.632			mean litter	2.850			mean litter	2.650			mean litter	2.700		
mean paternity	1.185			mean paternity	1.196			mean paternity	1.258			mean paternity	1.229		

free feed/fortified				free feed/unfortified				food restrict/fortified				food restricted/unfortified				free food/alfalfa				food restricted/alfalfa			
female	litter	pups	min	female	litter	pups	min EPP	female	litter	pups	min EPP	female	litter	pups	min EPP	female	litter	pups	min EPP	female	litter	pups	min EPP
10542	1	4	1	12372	1	5	2	12381	1	1	1	12093	1	2	1	12176	1	4	1	12665	1	1	1
10542	2	5	1	12372	2	6	2	12381	2	3	1	12093	2	1	1	12176	2	6	2	12665	2	2	1
10542	3	5	2	12372	3	2	1	12381	3	3	2	12093	3	2	1	12176	3	1	1	12665	3	1	1
10542	4	3	1	12372	4	6	2	12823	1	3	1	12205	1	1	1	12402	1	4	3	12715	1	3	1
11022	1	6	2	12384	1	7	2	12823	2	3	1	12205	2	4	1	12402	2	5	1	12715	2	3	2
11022	2	3	1	12384	2	5	3	12823	3	1	1	13097	1	2	1	12684	1	5	2	12817	1	2	1
11022	3	7	3	12384	3	6	2	12823	4	4	2	13097	2	3	2	12684	2	4	1	12817	2	2	2
11567	1	5	1	12384	4	2	2	13462	1	3	1	13461	1	3	1	12684	3	4	2	12817	3	3	1
11567	2	7	2	12561	1	6	1	13892	1	2	1	13461	2	3	1	13125	1	3	2	13422	1	3	1
11567	3	7	2	12561	2	7	2	13892	2	4	1	13674	1	2	1	13125	2	4	2	13422	2	4	2
11567	4	5	1	12561	3	3	3	13892	3	2	1	13674	2	1	1	13125	3	3	1	13422	3	2	1
11567	5	5	2	12622	1	7	2	14181	1	3	1	13674	3	4	2	13514	1	7	1	13866	1	2	1
11574	1	4	1	12622	2	4	1	14181	2	1	1	13714	1	1	1	13514	2	3	2	13866	2	3	2
11574	2	1	1	12622	3	3	1	14181	3	4	2	13714	2	3	2	13514	3	5	1	13866	3	3	2
11574	3	3	2	12622	4	0	1	14181	4	3	1	13714	3	2	1	13514	4	5	2	14394	1	2	1
11583	1	5	2	12622	5	7	2	14292	1	1	1	13715	1	3	1	14392	1	7	2	14394	2	2	1
11583	2	4	2	12663	1	5	1	14292	2	3	1	13715	2	1	1	14392	2	7	2	14624	1	2	1
11594	1	7	1	12663	2	3	1	14292	3	1	1	14286	1	4	1	14392	3	6	1	14624	2	4	2
11594	2	3	1	12663	3	6	2	14353	1	3	1	14286	2	1	1	14484	1	5	1	14624	3	4	1
11594	3	4	1	12663	4	7	2	14353	2	3	1	14286	3	4	1	14484	2	7	2	15025	1	4	1
11594	4	2	1	12701	1	6	2	14353	3	2	2	14724	1	4	1	14484	3	6	2	15025	2	3	2
14402	1	6	2	12701	2	6	1	14401	1	4	1	14724	2	4	1	15191	1	9	2	15025	3	2	1
14402	2	7	2	12701	3	8	2	14401	2	2	1	14724	3	3	2	15191	2	7	2	15161	1	2	1
14402	3	7	2	12701	4	2	1	14503	1	3	1	14915	1	2	1	15191	3	8	1	15161	2	2	1
14412	1	3	1	12725	1	6	1	14503	2	2	1	14915	2	4	2	15666	1	5	2	15161	3	3	1
14412	2	8	2	12725	2	2	2	14503	3	1	1	15462	1	2	1	15666	2	4	1	15783	1	2	1
14942	1	5	2	12725	3	6	2	15793	1	1	1	15462	2	2	2	15666	3	3	1	15783	2	1	1
15053	1	5	2	12725	4	8	3	15793	2	1	1	15462	3	2	1	15946	1	6	2	15813	1	1	1
15053	2	6	2	12818	1	7	2	15793	3	3	2	15742	1	2	1	15946	2	5	1	15813	2	3	1
15053	3	6	2	12818	2	2	1	16841	1	2	1	15742	2	3	1	16252	1	7	1	15993	1	3	1
15053	4	7	2	12818	3	6	2	16841	2	4	2	15843	1	2	1	16252	2	6	1	15993	2	3	1
15112	1	3	1	12883	1	4	1	16841	3	3	1	15843	2	4	2	16252	3	3	1	15993	3	1	1
15112	2	3	1	12883	2	7	2	16841	4	2	1	16173	1	1	1	16252	4	6	2	17194	1	4	2
15112	3	6	2	13052	1	1	1	17112	1	2	1	16173	2	1	1	16811	1	4	1	17194	2	1	1
15112	4	8	2	13052	2	6	1	17112	2	2	1	16173	3	4	2	16811	2	7	2	17266	1	1	1
15112	5	4	1	13052	3	7	2	17112	3	4	1	16454	1	4	1	16811	3	3	2	17266	2	4	2
15124	1	6	2	13115	1	2	1	17112	4	1	1	16454	2	4	1	16811	4	7	1	17266	3	1	1
15124	2	5	2	13115	2	7	2	17203	1	3	2	16454	3	1	1	16896	1	4	1	17607	1	3	1
15124	3	4	3	13115	3	7	2	17203	2	1	1	16763	1	3	1	16896	2	8	2	17607	2	4	1
15393	1	4	2	13121	1	6	2	17203	3	1	1	16763	2	2	1	16896	3	5	1	17607	3	3	1
15393	2	4	1	13121	2	5	1	17203	4	3	2	16786	1	3	1	16964	1	6	2	18014	1	2	1
15393	3	6	2	13121	3	5	2	17511	1	4	1	16786	2	1	1	16964	2	6	2	18014	2	3	2
15393	4	7	2	13121	4	7	1	17511	2	1	1	16786	3	1	1	16964	3	7	1	18064	1	1	1
15393	5	3	1	13153	1	5	2	17511	3	4	2	16815	1	4	1	16964	4	5	1	18064	2	2	1
15403	1	5	2	13153	2	3	2	17511	4	3	1	16815	2	4	1	17011	1	5	2	18317	1	4	1
15403	2	7	3	13153	3	5	2	17511	5	1	1	16815	3	4	1	17011	2	2	1	18317	2	2	1
15462	1	5	2	13174	1	5	2	17574	1	4	2	16925	1	2	1	17084	1	8	2	18677	1	3	1
15462	2	6	1	13174	2	5	2	17574	2	4	1	16925	2	3	1	17084	2	7	1	18677	2	2	1
15462	3	4	1	13174	3	5	3	17574	3	4	2	16925	3	3	1	17095	1	5	1	18677	3	2	1
15471	1	5	2	14192	1	6	2	17574	4	4	2	17084	1	1	1	17095	2	7	2	19005	1	2	1
15471	2	7	2	14192	2	1	1	17752	1	2	1	17084	2	4	1	17526	1	4	1	19005	2	2	1
15471	3	8	2	14192	3	7	1	17752	2	3	1	22092	1	1	1	17526	2	4	1	19005	3	2	1
15575	1	6	1	14252	1	6	2	17752	3	3	1	22092	2	4	1	17731	1	7	1	22667	1	2	2
15575	2	8	2	14252	2	4	2	17752	4	3	2	22092	3	4	2	17731	2	3	2	22667	2	1	1
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