



The generality of the island rule reexamined

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ABSTRACT

Aim M.V. Lomolino and colleagues have recently reviewed the island rule in mammals and other vertebrates, claiming it is a general pattern. They have portrayed our recent analysis as weakly supporting the island rule, seeing weakness in our use of what they considered to be inadequate size indices (skulls and teeth, rather than mass or body length) and in our use of large islands. They argue that size evolution on islands points to a bauplan-specific fundamental size. We aim to test the generality of the rule and the adequacy of some of the data used to support it.

Location Insular environments world-wide.

Methods We collate and analyse data on skull sizes of carnivores and body masses of mammals in general to see whether there is a graded trend from dwarfism in large species to gigantism in smaller ones.

Results The island rule is not supported with either the carnivore or the mammal data sets. Island area does not influence size change.

Main conclusions Our results suggest that data recently advanced in support of the island rule are inadequate and that the island rule is not a general pattern for all mammals.

Keywords

Bauplan, body mass, body size evolution, carnivores, fundamental size, geographic variation, island area, island rule, size indices, skull length.

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INTRODUCTION

Insular elephants are often as small as elephants get. Fossil proboscideans on islands world-wide show remarkable dwarfing compared to mainland ancestors (Hooijer, 1967; Sondaar, 1977; Roth, 1992; Cavarretta *et al.*, 2001). Not all insular elephants are small: Smith *et al.* (2003) list a higher mass for *Elephas maximus* on Sri Lanka than for continental ones; however, dwarfism seems to be the rule for proboscideans and artiodactyls (Sondaar, 1977; Lister, 1989; Endo *et al.*, 2002). Rodents, by contrast, are often relatively large on islands (e.g. Redfield, 1976; Lawlor, 1982; Smith, 1992), although many exceptions are known (e.g. Heaney, 1978; Ganem *et al.*, 1995; Nor, 1996). So it is not just that large mammals are usually smaller on islands (Kurten, 1953), small mammals often grow larger. Van Valen (1973) termed this pattern 'the island rule'.

Lomolino (1983, 1985, 2005) quantified the direction and magnitude of size change of island mammals, obtaining a trend from gigantism in smaller species to dwarfism in larger ones. Clegg & Owens (2002) and Boback & Guyer (2003) described similar patterns for birds and snakes, respectively. Recently, Lomolino (2005) concluded that the island rule is a general pattern for vertebrate taxa (see also Lomolino *et al.*, 2005). He uses data in Lomolino (1983), the avian and reptilian data mentioned above, an unpublished manuscript on insular chelonians, Krzanowski's (1967) data on insular bats, and two studies of continental mammal size decrease through time – Flannery (1994) and Schmidt & Jensen (2003). Finally, Lomolino uses our data on insular carnivores (Meiri *et al.*, 2004).

Reptiles and avian patterns aside, we are uncomfortable with Lomolino's (2005) analysis of mammals and therefore performed new analyses that we hope can shed light on the

generality of the island rule in mammals. Lomolino (2005, p. 1686) states that 'Meiri *et al.*'s (2004) recent study of skull measurements in the Carnivora also provides results that are consistent with the island rule', and then explains our 'substantial unexplained variation.' He maintains that our using teeth and skulls instead of body mass is likely to have introduced statistical noise related to differences in body shape rather than size between island and mainland populations. Finally, he rightly notes that limiting our data base to population pairs from which we measured at least five specimens from both mainland and island populations largely restricted our analysis to large islands. Such islands may be 'mainland-like' (Lomolino, 2005) and using such islands may reduce the likelihood of detecting a pattern.

Data and measures of insular size

First, we reiterate that we feel that the results of Meiri *et al.* (2004) are inconsistent with the island rule. We obtained a negative correlation between relative insular size and body mass only with one-tailed tests (Meiri *et al.*, 2004, Table 5), and then in only a small minority of our analyses (4 of 45). For CBL (condylo-basal length), a negative correlation between island : mainland size ratio and body mass was significant ($P = 0.047$, one-tailed) only when we use populations with $n \geq 10$ specimens from both islands and mainlands. Using so many specimens forced us to use exactly those data Lomolino (2005) rightfully criticizes as being biased towards large, mainland-like islands.

The question of which variable best represents 'body size' has been contested for years. Mass is intuitively the best index, but mass, even of the same individual, often varies greatly on a seasonal – and even on a daily – basis and depends on reproductive and physical condition. Body length, another common index, is attractive because it measures the whole animal. However, in weasels (from which many data in Meiri *et al.*, 2004, are derived), body length was found to estimate other size variables poorly (Johnson, 1991). Skins also tend to shrink over time, introducing further error, and in addition they are often measured differently in the field than in museums (Mazak *et al.*, 1978; Winker, 1993). At least some studies used by Lomolino (1983) to formulate the island rule report measurements of both fresh and dried skins (e.g. Tate, 1933). Finally, measurements of skulls, teeth and individual bones are the only size indices available for fossil data, yielding some of the most remarkable examples of insular size evolution. We do not believe the differences between Lomolino's results and ours (Meiri *et al.*, 2004) are an artefact of his having used mass and our having used skulls and teeth. Seventy-two of the 90 studies used by Lomolino (1983, 1985) did not report mass, so the pattern reported in these works must derive to a large extent from skin and skull measurements.

Because we remain unconvinced of the rule's generality, at least as far as mammals are concerned, and to test the influence of the size index on patterns obtained, we accept Lomolino's

(2005, p. 1684) urge for 'continuing advances in this research area' and examine the rule's predictions using two large data sets of insular and mainland mammals.

MATERIALS AND METHODS

Mass data and the island rule

To test whether a trend from gigantism of small mammals to dwarfism in large ones emerges with body mass as an index of size, we use data from Smith *et al.* (2003), who often report body mass for both insular and mainland conspecifics. Admittedly, Smith *et al.* did not ensure that data were from adjacent island and mainland populations. However, if the island rule is as prevalent as claimed (Lomolino *et al.*, 2005; Lomolino, 2005), we should expect at least some pattern in a plot spanning taxa from shrews (*Sorex minutissimus*) to elephants (*Elephas maximus*).

We omit from the data of Smith *et al.* (2003) data on extinct, introduced and feral species. We did not use body mass when no references were listed and omitted pinnipeds and sirenians. We use 62,500 g as the mass of insular populations of the bush pig *Potamochoerus larvatus* rather than the 62.5 g erroneously listed in Smith *et al.* (2003). When more than one mainland source existed for the same species, we chose mainland data based on geographic considerations. When more than one insular source existed for the same species, we used all insular populations. We omitted data where the body mass of insular and mainland populations were identical (e.g. all bats); these data probably represent incorrect assignment of the same datum to multiple populations. This procedure, which is liberal because it lowers the probability of obtaining a slope of exactly one, left us with 91 pairs (Appendix S1 in Supplementary Material). We regressed logarithms of insular masses on those of mainland masses, following Lomolino (1985, 2005). If the pattern described by Lomolino were evident in these data, the regression slope would be less than one, whereas a slope of one is predicted under the null expectation.

Island sizes and sample sizes

Lomolino stresses that the island rule should be manifest on small islands, and that it is preferable to use small sample sizes, but limit maximum island area. We concur that sample size *per se* probably does not bias results of the analysis. We therefore re-analyse our carnivore data (Meiri *et al.*, 2004), with special regard to island areas, and relaxing the demands for sample size. We now use all island-mainland pairs for which we have data, no matter the size of the sample.

Our methods of data collection and measurement are described in Meiri *et al.* (2004), supplemented with measurement in collections listed in Meiri *et al.* (2005c). Following Lomolino's (2005, p. 1685) assertion that teeth may be a

poorer index than skull length, we use only skull length (CBL) as an index of size. We examine only islands less than either 50,000, 10,000 or 5000 km² and test for the effect of island area (data from Meiri *et al.*, 2005a,b). We examine whether the residuals of island vs. mainland body size regressions and their absolute values are correlated with area.

We use both regression techniques suggested by Lomolino (2005): a regression of insular CBL on mainland CBL (expected to have a slope significantly lower than one if the island rule holds), and a regression of island CBL divided by mainland CBL on morphospecies-specific body mass.

RESULTS

For all mammals, the regression slope of insular on mainland body mass in Appendix S1 is 0.977 ± 0.17 , which translates to a 95% confidence interval of 0.943–1.01 (two-tailed) or 0.949–1.005 (one-tailed) (Fig. 1). Thus we cannot reject the null hypothesis of no consistent differences between insular and mainland masses.

Our carnivore data comprise 416 population pairs (Appendix S2). The slope of the regression of insular CBL on mainland CBL is 0.9989 ± 0.00488 , which does not significantly differ from one (Fig. 2). For islands smaller than 10,000 km² ($n = 331$) the slope is 0.9999 ± 0.005 , and for islands < 5000 km² ($n = 263$) it is 0.9904 ± 0.0065 , again not significantly different from one. Island area (log-transformed in all analyses) is not a significant predictor of insular CBL in any of these regressions (all islands: $\beta = 0.03$, $P = 0.60$; islands < 10,000 km², $\beta = 0.05$, $P = 0.33$; islands < 5000 km², $\beta = 0.002$, $P = 0.73$).

Regressing the ratio of insular CBL to mainland CBL on body mass for the whole data base (Fig. 3) results in a non-significant positive correlation (slope = 0.0124, $\beta = 0.06$, $P = 0.19$). Adding island area to the regression model does not result in a significant relationship for either variable (body mass, $\beta = 0.06$, $P = 0.19$; area, $\beta = -0.004$, $P = 0.93$). Moreover, the relationship between insular to mainland CBL ratio and body mass was

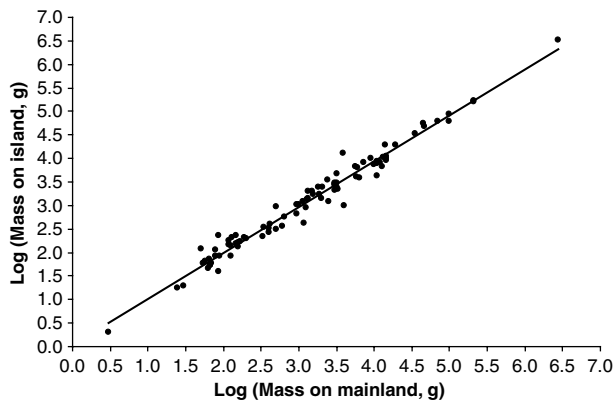


Figure 1 A regression of insular mammal mass on mainland mammal mass. $\text{Log insular mass (g)} = 0.345 + 0.977 \times \text{log mainland mass (g)}$. $R^2 = 0.974$. Data in Appendix S1.

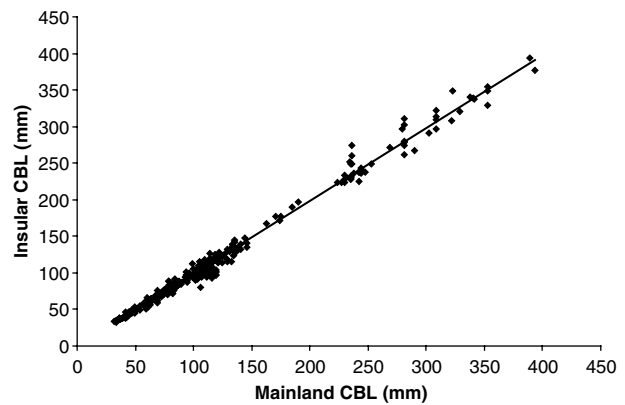


Figure 2 A regression of insular carnivore skull size (Condylor-Basal Length; CBL) on mainland carnivore skull size (CBL). $\text{Insular CBL (mm)} = -1.635 + 0.99891 \times \text{Mainland CBL (mm)}$. $R^2 = 0.99$. Data in Appendix S2.

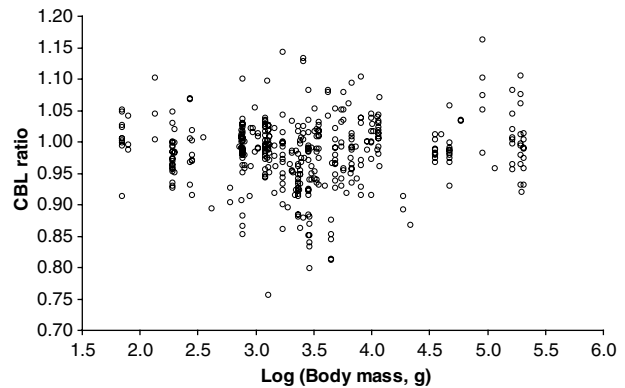


Figure 3 The ratio of insular carnivore skull length (CBL) to mainland carnivore skull length (CBL) vs. morphospecies body mass (log transformed). Data in Appendix S2.

not significant when we restricted analysis to islands < 10,000 km² (mass alone: $\beta = 0.091$, $P = 0.099$; mass and area: mass, $\beta = 0.09$, $P = 0.10$; area, $\beta = 0.008$, $P = 0.89$) or < 5000 km² (mass alone: $\beta = 0.077$, $P = 0.21$; mass and area: mass, $\beta = 0.08$, $P = 0.20$; area, $\beta = -0.03$, $P = 0.62$).

Island area is uncorrelated with size change (island/mainland CBL) (Spearman's $r = -0.04$, $P = 0.37$) or with the absolute value of the term [1 - (size on island/size on mainland)] (Spearman's $r = -0.02$, $P = 0.70$).

An analysis of carnivore families separately again does not support the island rule (Tables 1 and 2). In regressions of insular CBL on mainland CBL, only ursids and viverrids have slopes significantly lower than one. Only bears show a pattern consistent with the island rule in regressions of island : mainland CBL ratio on mass. Correlations for all other carnivore families are positive. When we use either regression technique, canids show a significant pattern in the opposite direction to that predicted; large canids grow larger on islands while small canids grow smaller.

Table 1 Slopes of linear regressions of insular skull length (mm) on mainland skull length (mm) in different carnivore families. Data in Appendix S2

| Family | <i>n</i> | Slope | SD |
|-------------|----------|--------|-------|
| Canidae | 59 | 1.037* | 0.018 |
| Felidae | 14 | 0.967 | 0.028 |
| Herpestidae | 10 | 0.990 | 0.066 |
| Mustelidae | 206 | 0.994 | 0.009 |
| Procyonidae | 21 | 1.053 | 0.067 |
| Ursidae | 29 | 0.824* | 0.059 |
| Viverridae | 77 | 0.854* | 0.063 |

*Slope significantly different from one ($P < 0.05$).

Table 2 Spearman rank correlations of carnivore skull size (CBL) ratio on the logarithm of morphospecies body mass in different carnivore families. Data in Appendix S2

| Family | <i>n</i> | Spearman <i>r</i> | <i>P</i> |
|-------------|----------|-------------------|----------|
| Canidae | 59 | 0.425 | 0.001 |
| Felidae | 14 | 0.335 | 0.242 |
| Herpestidae | 10 | 0.116 | 0.749 |
| Mustelidae | 206 | 0.103 | 0.139 |
| Procyonidae | 21 | 0.067 | 0.774 |
| Ursidae | 29 | -0.435 | 0.018 |
| Viverridae | 77 | 0.070 | 0.545 |

DISCUSSION

We could not reject the null hypothesis that the direction and magnitude of size differences between islands and mainlands are independent of body size on the mainland using either data set. It seems that use of body mass vs. cranial and dental measurements is not why Lomolino (1985) and Meiri *et al.* (2004) obtained different patterns. Skulls (and teeth) are probably the commonest size indexes in biogeography and palaeontology. Some studies from which Lomolino (1983) derived his data explicitly claim skull measurements are superior (Corbet, 1964). Others warn about the accuracy of field measurements (Swarth, 1933). Manning & MacPherson (1958, p. 10) note that 'part of the difference in weight between the three back river specimens and the Banks Island series is undoubtedly due to the inclusion of pregnant and lactating females in the latter'. We do not maintain that cranial or tooth sizes are inherently superior to mass or body lengths, but rather argue that they are not inherently worse size indices either.

We have shown previously that using different carnivore sub-taxa, sexes and size indices results in hugely different estimates of 'optimal' or 'fundamental' size, believed to be indicated by the point where the regression equation of relative insular body size on mainland body size equals one (Lomolino *et al.*, 2005; Lomolino, 2005), ranging from very near zero to just over 18 tons (Meiri *et al.*, 2004). Using data in Appendix S2, we arrive at optimal sizes of 83 g (Viverridae), 1579 g

(Procyonidae), 12,015 g (Mustelidae), 18,071 g (Herpestidae), 59,313 g (Canidae), 193,700 g (Ursidae) and 360,716 (Felidae). Viverrids and mongooses have never reached their proposed fundamental sizes, and only the largest felids, canids and mustelids do so. Furthermore, for carnivores (mink, otters and bears) hunting aquatic prey, the regression of relative insular body size on mainland body size equals one at a size of 5 g. Using the same grouping, Lomolino (2005) arrived at a figure 40,000 times higher (208,485 g). Using lower or higher taxa than those chosen by Lomolino (2005) would probably have substantially altered the fundamental sizes obtained. Solving $a + bx = x$ in a regression of data in Appendix S1 results in a fundamental size for mammals of 31 g. In sum, we find little in the size evolution of insular carnivores and other mammals to suggest an optimal size.

Our results suggest that the island rule does not apply to carnivores. Nor do we think it applies to bears – the ursid pattern probably rests on the shoulders of giant insular black bears, *Ursus americanus* Pallas, rather than on those of dwarf grizzlies (*Ursus arctos* L.). In fact, both bear species are on average larger on islands than on the adjacent mainland. Food availability may drive size patterns in these populations. P. Raia and S. Meiri (unpubl. data) suggest that ungulates usually exhibit dwarfism on islands, while carnivore size is closely related to the relative abundance and size spectrum of available resources. Under this scenario, the island rule would not be a general property for all mammalian taxa. Because many authors have at least partially attributed the island syndrome to a change in predation pressure (e.g. Smith, 1992; Michaux *et al.*, 2002), it is unsurprising that the rule does not apply to carnivores. Our analysis of the data of Smith *et al.* (2003) suggests ancestral body size may not be of overwhelming importance for other mammalian clades. Case (1978) and Lawlor (1982) sought to explain size evolution in terms of the biological attributes of different taxa, rather than in terms of ancestral body size. We believe that this issue merits more attention than it has received.

Size patterns in insular bats and size change through time

Lomolino (2005, p. 1684) stated that 'especially during the last decade, numerous authors have studied body size patterns in ...vertebrates inhabiting islands' and present data on insular size changes in megachiropteran bats (Krzanowski, 1967) and size changes through time in Danish and Australian mammals. We are uneasy about using forearm length as a size index for insular volant vertebrates. Wing length is closely related to flight behaviour, which often differs between islands and mainlands. Darwin (1859) elaborated on this in the paragraph of 'The Origin' just preceding the one quoted by Lomolino (2005, p. 1684), and it remains one of the best-known aspects of the evolution of insular biotas (e.g. McNab, 1994). Lomolino *et al.* (2005, pp. 540–546) treat this as an important and common evolutionary trend on islands and state that birds did not follow the island rule 'when wing length was used as a

surrogate for body size' but do show this pattern when bill length and body mass are used (Lomolino *et al.*, 2005, pp. 558–560, data from Clegg & Owens, 2002). Specifically for insular vs. mainland bats, Iliopoulou-Georgudaki (1986) found an inverse correlation between wing length and wind speed, and Jacobs (1996) found wing size differences associated with differences in foraging strategy. The intriguing question of bat size evolution on islands should probably be explored using size indices unrelated to flight.

Other data used by Lomolino relate to patterns of size change through time: Pleistocene/Holocene dwarfism in Australian marsupials (Flannery, 1994, data from Marshall & Corruccini, 1978), and size changes in recent Danish mammals (Schmidt & Jensen, 2003). We are not sure that these data can shed much light on size evolution on islands, as both these studies are of mainland mammals only. Climatic changes may cause dwarfing, in accordance with the finding that Bergmann's rule is manifest in large mammals more than in small ones (Meiri & Dayan, 2003). Different hunting pressures on different sized animals may also cause different rates of dwarfism (Pregill, 1986). Yom-Tov (2003), studying size change in Israeli carnivores, showed that larger species increased in size more than smaller ones did; thus, patterns of size change through time in mainland mammals do not, as a rule, show dwarfism in large species and gigantism in smaller ones. Patterns of recent size change in mainland mammals are extremely difficult to ascribe unambiguously to fragmentation, rather than to global climate change or increased food availability (Yom-Tov, 2001, 2003).

CONCLUSIONS

We agree with Lomolino (2005) that the island rule should be critically re-examined, for mammals as well as for other vertebrate and invertebrate taxa. Whether a single, general pattern will emerge or a much more complicated one (see e.g. Case, 1978) remains to be established.

While some taxa may well follow the island rule, such generalizations warrant great caution (Lawlor, 1982). Carnivores do not seem to adhere to this rule (Meiri *et al.*, 2004, this study), and as does Lomolino (2005) we encourage further investigation into the generality of the pattern, but we also urge that greater attention be paid to attributes such as diet (Lawlor, 1982), behaviour (Case, 1978), community composition (Smith, 1992; Dayan & Simberloff, 1998) and phylogeny.

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REFERENCES

- Boback, S.M. & Guyer, C. (2003) Empirical evidence for an optimal body size in snakes. *Evolution*, **57**, 345–351.
- Case, T.J. (1978) A general explanation for insular body size trends in terrestrial vertebrates. *Ecology*, **59**, 1–18.
- Cavarretta, G., Gioia, P., Mussi, M. & Palombo, M.R. (eds) (2001) The world of elephants. *Proceedings of the 1st International Congress, Rome*. Consiglio Nazionale delle Ricerche, Rome.
- Clegg, S.M. & Owens, I.P.F. (2002) The 'island rule' in birds: medium body size and its ecological explanation. *Proceedings of the Royal Society of London Series B, Biological Sciences*, **269**, 1359–1365.
- Corbet, G.B. (1964) Regional variation in the bank vole in the British Isles. *Proceedings of the Zoological Society of London*, **143**, 191–219.
- Darwin, C.R. (1859) *On the origin of species by means of natural selection*. John Murray, London.
- Dayan, T. & Simberloff, D. (1998) Size patterns among competitors: ecological character displacement and character release in mammals, with special reference to island populations. *Mammal Review*, **28**, 99–124.
- Endo, H., Hayashi, Y., Yamazaki, K., Motokawa, M., Pei, J.-C.K., Lin, L.-K., Chou, C.-H. & Oshida, T. (2002) Geographical variation of mandible size and shape in the wild pig (*Sus scrofa*) from Taiwan and Japan. *Zoological Studies*, **41**, 452–460.
- Flannery, T.F. (1994) *The future eaters: an ecological history of the Australasian lands and people*. Reed International Books, Kew, London.
- Ganem, G., Granjon, L., Ba, K. & Duplantier, J.-M. (1995) Body size variability and water balance: a comparison between mainland and island populations of *Mastomys huberti* (Rodentia: Muridae) in Senegal. *Experientia*, **51**, 402–410.
- Heaney, L.R. (1978) Island area and body size of insular mammals: evidence from the tri-colored squirrel (*Callosciurus prevosti*) of Southeast Asia. *Evolution*, **32**, 29–44.
- Hooijer, D.A. (1967) Indo-Australian insular elephants. *Genetica*, **38**, 143–162.
- Iliopoulou-Georgudaki, J. (1986) The relationship between climatic factors and forearm length of bats: evidence from the chiroptero fauna of Lesbos Island (Greece – East Aegean). *Mammalia*, **50**, 475–482.
- Jacobs, D.S. (1996) Morphological divergence in an insular bat, *Lasiurus cinereus semotus*. *Functional Ecology*, **10**, 622–630.

- Johnson, D.R. (1991) Measurement of weasel body size. *Canadian Journal of Zoology*, **69**, 2277–2279.
- Krzanowski, A. (1967) The magnitude of islands and the size of bats (Chiroptera). *Acta Zoologica Cracoviensia*, **12**, 281–346.
- Kurten, B. (1953) On the variation and population dynamics of fossil and recent mammal populations. *Acta Zoologica Fennica*, **76**, 1–122.
- Lawlor, T.E. (1982) The evolution of body size in mammals: evidence from insular populations in Mexico. *American Naturalist*, **119**, 54–72.
- Lister, A.M. (1989) Rapid dwarfing of red deer on Jersey in the last interglacial. *Nature*, **342**, 539–542.
- Lomolino, M.V. (1983) *Island biogeography, immigrant selection and body size of mammals on islands*. PhD Dissertation. University of New York, New York.
- Lomolino, M.V. (1985) Body size of mammals on islands: the island rule reexamined. *American Naturalist*, **125**, 310–316.
- Lomolino, M.V. (2005) Body size evolution in insular vertebrates: generality of the island rule. *Journal of Biogeography*, **32**, 1683–1699.
- Lomolino, M.V., Riddle, B.R. & Brown, J.H. (2005) *Biogeography*, 3rd edn. Sinauer Associates, Inc., Sunderland, MA.
- Manning, T.H. & MacPherson, A.H. (1958) *The mammals of Banks Island*. Arctic Institute of North America Technical Paper No. 2. Montreal, Canada.
- Marshall, L.G. & Corruccini R.S. (1978) Variability, evolutionary rates, and allometry in dwarfing lineages. *Paleobiology*, **4**, 101–119.
- Mazak, V., Groves, C.P. & van Bree, P.H.J. (1978) On a skin and skull of the Bali Tiger, and a list of preserved specimens of *Panthera tigris balica* (Schwarz, 1912). *Zeitschrift für Säugetierkunde*, **43**, 108–113.
- McNab, B.K. (1994) Energy conservation and the evolution of flightlessness in birds. *American Naturalist*, **144**, 628–642.
- Meiri, S. & Dayan, T. (2003) On the validity of Bergmann's rule. *Journal of Biogeography*, **30**, 331–351.
- Meiri, S., Dayan, T. & Simberloff, D. (2004) Body size of insular carnivores: little support for the island rule. *American Naturalist*, **163**, 469–479.
- Meiri, S., Dayan, T. & Simberloff, D. (2005a) Area, isolation, and body size evolution in insular carnivores. *Ecology Letters*, **8**, 1211–1217.
- Meiri, S., Simberloff, D. & Dayan, T. (2005b) Insular carnivore biogeography: island area and mammalian optimal body size. *American Naturalist*, **165**, 505–514.
- Meiri, S., Dayan, T. & Simberloff, D. (2005c) Variability and correlations in carnivore crania and dentition. *Functional Ecology*, **19**, 337–343.
- Michaux, J.R., De Belloco, J.G., Sara, M. & Morand, S. (2002) Body size in insular rodent populations: a role for predators? *Global Ecology and Biogeography*, **11**, 427–436.
- Nor, S.M. (1996) The mammalian fauna on the islands at the northern tip of Sabah, Borneo. *Fieldiana-Zoology*, **83**, 1–51.
- Pregill, G. (1986) Body size of insular lizards: a pattern of Holocene dwarfism. *Evolution*, **40**, 997–1008.
- Redfield, J.A. (1976) Distribution, abundance, size and genetic variation of *Peromyscus maniculatus* on the gulf islands of British Columbia. *Canadian Journal of Zoology*, **54**, 463–474.
- Roth, V.L. (1992) Inferences from allometry and fossils: dwarfing of elephants on islands. *Oxford Surveys in Evolutionary Biology*, **8**, 259–288.
- Schmidt, N.M. & Jensen, P.M. (2003) Changes in mammalian body length over 175 years – adaptations to a fragmented landscape? *Conservation Ecology*, **7**, 6.(online).
- Smith, F.A. (1992) Evolution of body size among woodrats from Baja California, Mexico. *Functional Ecology*, **6**, 265–273.
- Smith, F.A., Lyons, S.K., Morgan Ernest, S.K., Jones, K.E., Kaufman, D.M., Dayan, T., Marquet, P.A., Brown, J.H. & Haskell, J.P. (2003) Body mass of late Quaternary mammals. *Ecology*, **84**, 3403.
- Sondaar, P.Y. (1977) Insularity and its effects on mammal evolution. *Major patterns of vertebrate evolution* (ed. by M.K. Hecht, P.C. Goody and B.M. Hecht), pp. 671–707. Plenum Press, New York.
- Swarth, H.S. (1933) The long-tailed meadow mouse of Southeastern Alaska. *Proceedings of the Biological Society of Washington*, **46**, 207–212.
- Tate, G.H.H. (1933) A systematic revision of the marsupial genus *Marmosa*, with a discussion of the adaptive radiation of the murine opossums (*Marmosa*). *Bulletin of the American Museum of Natural History*, **66**, 1–250.
- Van Valen, L.M. (1973) A new evolutionary law. *Evolutionary Theory*, **1**, 1–30.
- Winker, K. (1993) Specimen shrinkage in Tennessee warblers and trails flycatchers. *Journal of Field Ornithology*, **64**, 331–336.
- Yom-Tov, Y. (2001) Global warming and body mass decline in Israeli passerine birds. *Proceedings of the Royal Society of London Series B, Biological Sciences*, **268**, 947–952.
- Yom-Tov, Y. (2003) Body sizes of carnivores commensal with humans have increased over the past 50 years. *Functional Ecology*, **17**, 323–327.

SUPPLEMENTARY MATERIAL

The following supplementary material is available for this article online:

Appendix S1. Data on body mass of insular and mainland mammals.

Appendix S2. Data on insular and mainland carnivores.

This material is available as part of the online article from <http://www.blackwell-synergy.com>

BIOSKETCHES

Shai Meiri is a postdoctoral fellow studying macroecological patterns in diverse vertebrate groups. He is interested in the evolution of body size and its implications, in other aspects of functional morphology, and in the biogeographic and morphological implications of predation. Other fields of interest include biogeographic correlates of morphology and the morphological signatures of speciation.

Tamar Dayan is an Associate Professor of Zoology, with a research interest in the evolution of mammals within ecological communities. Her research involves both recent mammals (museum specimens and ecological communities in the field) and fossil and subfossil specimens. Previous morphological studies include character displacement and sexual size dimorphism.

Daniel Simberloff is Nancy Gore Hunger Professor of Environmental Studies. He is interested in biogeography, population and community ecology, evolution and invasion biology – patterns displayed by species introduced outside their geographic ranges, the impacts such species have on the communities they invade, and the means by which such invasions can be managed.

Editor: Bradford Hawkins

Appendix S1 – Body masses of insular and mainland mammals

Data are from Smith, F. A., Lyons, S. K., Morgan Ernest, S. K., Jones, K. E., Kaufman, D. M., Dayan, T., Marquet, P. A., Brown, J. H., And Haskell, J. P. 2003. Body mass of late Quaternary mammals. *Ecology*, 84: 3403. *Ecological Archives* E084-094.

| Continent | Order | Family | Species | mainland mass (g) | island mass (g) |
|-----------|---------------|----------------|----------------------------------|-------------------|-----------------|
| EA | Insectivora | Soricidae | <i>Sorex minutissimus</i> | 3 | 2 |
| EA | Rodentia | Muridae | <i>Chiropodomys gliroides</i> | 25 | 18 |
| AUS | Diprotodontia | Burramyidae | <i>Cercartetus caudatus</i> | 30 | 20 |
| EA | Rodentia | Sciuridae | <i>Hylopetes spadiceus</i> | 50 | 119 |
| EA | Rodentia | Muridae | <i>Maxomys whiteheadi</i> | 54 | 58 |
| EA | Rodentia | Muridae | <i>Golunda ellioti</i> | 57 | 65 |
| AUS | Rodentia | Muridae | <i>Pogonomys macrourus</i> | 63 | 45 |
| EA | Rodentia | Muridae | <i>Niviventer cremoriventer</i> | 66 | 73 |
| EA | Insectivora | Soricidae | <i>Suncus murinus</i> | 68 | 54 |
| EA | Insectivora | Soricidae | <i>Suncus murinus</i> | 68 | 54 |
| EA | Scandentia | Tupaiaidae | <i>Tupaia minor</i> | 70 | 59 |
| EA | Primates | Tarsiidae | <i>Tarsius bancanus</i> | 78 | 111 |
| EA | Rodentia | Muridae | <i>Niviventer fulvescens</i> | 80 | 84 |
| AF | Insectivora | Soricidae | <i>Suncus murinus</i> | 87 | 40 |
| EA | Rodentia | Muridae | <i>Rattus tanezumi</i> | 87 | 228 |
| EA | Rodentia | Sciuridae | <i>Sundasciurus lowii</i> | 90 | 85 |
| EA | Rodentia | Sciuridae | <i>Iomys horsfieldi</i> | 120 | 175 |
| EA | Rodentia | Muridae | <i>Lenothrix canus</i> | 120 | 150 |
| EA | Rodentia | Muridae | <i>Rattus tiomanicus</i> | 128 | 136 |
| AUS | Diprotodontia | Petauridae | <i>Petaurus breviceps</i> | 128 | 85 |
| AUS | Rodentia | Muridae | <i>Rattus leucopus</i> | 132 | 212 |
| EA | Rodentia | Muridae | <i>Maxomys rajah</i> | 150 | 157 |
| EA | Rodentia | Muridae | <i>Bandicota bengalensis</i> | 150 | 227 |
| EA | Scandentia | Tupaiaidae | <i>Tupaia glis</i> | 159 | 159 |
| EA | Rodentia | Sciuridae | <i>Pteromys volans</i> | 158 | 130 |
| EA | Rodentia | Muridae | <i>Tatera indica</i> | 165 | 168 |
| EA | Rodentia | Sciuridae | <i>Callosciurus notatus</i> | 190 | 205 |
| EA | Rodentia | Sciuridae | <i>Lariscus insignis</i> | 200 | 200 |
| EA | Rodentia | Muridae | <i>Sundamys muelleri</i> | 334 | 217 |
| AF | Rodentia | Sciuridae | <i>Heliosciurus undulatus</i> | 347 | 347 |
| EA | Rodentia | Sciuridae | <i>Callosciurus prevostii</i> | 400 | 323 |
| EA | Rodentia | Sciuridae | <i>Pteromyscus pulverulentus</i> | 400 | 269 |
| AUS | Diprotodontia | Petauridae | <i>Dactylopsila trivirgata</i> | 423 | 404 |
| EA | Rodentia | Muridae | <i>Bandicota indica</i> | 500 | 940 |
| EA | Rodentia | Sciuridae | <i>Sundasciurus hippurus</i> | 500 | 313 |
| AUS | Rodentia | Muridae | <i>Hydromys chrysogaster</i> | 606 | 354 |
| AUS | Rodentia | Muridae | <i>Uromys caudimaculatus</i> | 646 | 568 |
| EA | Carnivora | Mustelidae | <i>Melogale moschata</i> | 939 | 672 |
| EA | Rodentia | Sciuridae | <i>Petaurista elegans</i> | 954 | 1040 |
| EA | Dermoptera | Cynocephalidae | <i>Cynocephalus variegatus</i> | 1000 | 1025 |
| EA | Rodentia | Sciuridae | <i>Ratufa affinis</i> | 1125 | 1188 |
| EA | Primates | Loridae | <i>Nycticebus coucang</i> | 1187 | 420 |
| EA | Rodentia | Sciuridae | <i>Aeromys tephromelas</i> | 1250 | 900 |
| EA | Rodentia | Sciuridae | <i>Ratufa macroura</i> | 1280 | 1374 |
| EA | Rodentia | Sciuridae | <i>Petaurista petaurista</i> | 1335 | 1985 |
| EA | Carnivora | Felidae | <i>Prionailurus rubiginosus</i> | 1350 | 1419 |

| Continent | Order | Family | Species | mainland mass (g) | island mass (g) |
|-----------|---------------|-----------------|-----------------------------------|-------------------|-----------------|
| EA | Carnivora | Viverridae | <i>Hemigalus derbyanus</i> | 1500 | 1968 |
| EA | Rodentia | Hystricidae | <i>Trichys fasciculata</i> | 1560 | 1750 |
| EA | Carnivora | Herpestidae | <i>Herpestes smithii</i> | 1861 | 1703 |
| AUS | Diprotodontia | Phalangeridae | <i>Phalanger orientalis</i> | 1850 | 2488 |
| EA | Carnivora | Herpestidae | <i>Herpestes brachyurus</i> | 2000 | 1414 |
| EA | Lagomorpha | Leporidae | <i>Lepus nigricollis</i> | 2100 | 2497 |
| EA | Artiodactyla | Tragulidae | <i>Moschiola meminna</i> | 2450 | 3426 |
| EA | Carnivora | Mustelidae | <i>Martes flavigula</i> | 2500 | 1185 |
| EA | Carnivora | Viverridae | <i>Viverricula indica</i> | 2980 | 2686 |
| EA | Carnivora | Viverridae | <i>Viverricula indica</i> | 2980 | 2896 |
| EA | Carnivora | Viverridae | <i>Viverricula indica</i> | 2980 | 3000 |
| EA | Carnivora | Herpestidae | <i>Herpestes vitticollis</i> | 2995 | 2157 |
| EA | Carnivora | Felidae | <i>Pardofelis marmorata</i> | 3250 | 2459 |
| EA | Carnivora | Viverridae | <i>Paradoxurus hermaphroditus</i> | 3200 | 3027 |
| EA | Primates | Cercopithecidae | <i>Macaca fascicularis</i> | 3233 | 4750 |
| EA | Artiodactyla | Tragulidae | <i>Tragulus javanicus</i> | 3300 | 2250 |
| EA | Pholidota | Manidae | <i>Manis crassicaudata</i> | 3900 | 13015 |
| EA | Carnivora | Mustelidae | <i>Amblonyx cinereus</i> | 3990 | 1000 |
| EA | Primates | Hylobatidae | <i>Hylobates concolor</i> | 5700 | 6685 |
| EA | Artiodactyla | Tragulidae | <i>Tragulus napu</i> | 5900 | 4000 |
| EA | Primates | Cercopithecidae | <i>Macaca nemestrina</i> | 6093 | 6500 |
| AUS | Diprotodontia | Phalangeridae | <i>Spilocuscus maculatus</i> | 6400 | 3814 |
| EA | Carnivora | Felidae | <i>Felis chaus</i> | 7257 | 8172 |
| EA | Carnivora | Viverridae | <i>Viverra zibetha</i> | 9000 | 10000 |
| EA | Carnivora | Viverridae | <i>Viverra tangalunga</i> | 10000 | 7350 |
| EA | Carnivora | Mustelidae | <i>Lutra lutra</i> | 11000 | 4356 |
| EA | Carnivora | Felidae | <i>Prionailurus viverrinus</i> | 10850 | 7718 |
| EA | Carnivora | Felidae | <i>Prionailurus viverrinus</i> | 10850 | 8853 |
| EA | Carnivora | Canidae | <i>Canis aureus</i> | 11958 | 8077 |
| EA | Carnivora | Viverridae | <i>Arctictis binturong</i> | 13000 | 6750 |
| EA | Primates | Cercopithecidae | <i>Trachypithecus johnii</i> | 13400 | 10442 |
| EA | Artiodactyla | Cervidae | <i>Muntiacus muntjak</i> | 14000 | 19777 |
| EA | Primates | Cercopithecidae | <i>Semnopithecus entellus</i> | 14500 | 9080 |
| EA | Primates | Cercopithecidae | <i>Semnopithecus entellus</i> | 14500 | 11010 |
| EA | Rodentia | Hystricidae | <i>Hystrix indica</i> | 14650 | 10222 |
| EA | Carnivora | Felidae | <i>Neofelis nebulosa</i> | 19500 | 19852 |
| EA | Artiodactyla | Cervidae | <i>Axis porcinus</i> | 35000 | 33256 |
| EA | Carnivora | Ursidae | <i>Helarctos malayanus</i> | 46000 | 47000 |
| EA | Carnivora | Felidae | <i>Panthera pardus</i> | 45500 | 55615 |
| EA | Artiodactyla | Cervidae | <i>Axis axis</i> | 70000 | 62346 |
| AF | Artiodactyla | Suidae | <i>Potamochoerus larvatus</i> | 97500 | 62500 |
| EA | Carnivora | Ursidae | <i>Melursus ursinus</i> | 100000 | 86260 |
| EA | Artiodactyla | Cervidae | <i>Cervus unicolor</i> | 211620 | 160413 |
| EA | Artiodactyla | Cervidae | <i>Cervus unicolor</i> | 211620 | 169000 |
| EA | Proboscidea | Elephantidae | <i>Elephas maximus</i> | 2720000 | 3305120 |

Appendix S2 – Data on insular and mainland carnivores

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km ²) | Body mass (g) | Mass source |
|--------------------------------|--------|---------------------------|------------------------------|------------------|-----------|-------------------|------------|--------------------------------|---------------|-------------|
| <i>Alopex lagopus</i> | Female | Flaherty | Quebec 55-60N, W. of 76W | 117.05 | 3 | 120.18 | 15 | 1585 | 2611 | 9 |
| <i>Alopex lagopus</i> | Male | Flaherty | Quebec 55-60N, W. of 76W | 123.23 | 5 | 124.64 | 16 | 1585 | 3368 | 9 |
| <i>Alopex lagopus</i> | Male | Prince of Wales - Nunavut | Nunavut N. of 68N, 95-100N | 119.47 | 3 | 127.95 | 1 | 33339 | 3368 | 9 |
| <i>Alopex lagopus</i> | Male | Southampton | Nunavut N. of 62N, E. of 98W | 119.73 | 24 | 118.82 | 2 | 41214 | 3368 | 9 |
| <i>Alopex lagopus</i> | Male | Tukarak | Quebec 55-60N, W. of 76W | 122.52 | 4 | 124.64 | 16 | 349 | 3368 | 9 |
| <i>Alopex lagopus</i> | Male | Ymer | Greenland | 118.04 | 3 | 115.69 | 24 | 2437 | 3368 | 9 |
| <i>Aonyx cinerea</i> | Male | Bintang | Malay Peninsula | 91.02 | 1 | 84.34 | 4 | 1140 | 4250 | 5 |
| <i>Aonyx cinerea</i> | Female | Galang | Malay Peninsula | 89.07 | 1 | 78.60 | 2 | 74 | 2590 | 9 |
| <i>Aonyx cinerea</i> | Male | Karimon | Malay Peninsula | 91.27 | 1 | 84.34 | 4 | 131 | 4250 | 5 |
| <i>Aonyx cinerea</i> | Female | Laut | Borneo | 84.68 | 1 | 84.42 | 9 | 2057 | 2590 | 9 |
| <i>Aonyx cinerea</i> | Female | Palawan | Borneo | 85.56 | 1 | 84.42 | 9 | 12189 | 2590 | 9 |
| <i>Aonyx cinerea</i> | Male | Palawan | Borneo | 87.35 | 2 | 83.90 | 4 | 12189 | 4250 | 5 |
| <i>Aonyx cinerea</i> | Female | Setoko | Malay Peninsula | 88.68 | 1 | 78.60 | 2 | 17 | 2590 | 9 |
| <i>Arctictis binturong</i> | Male | Bangka | Borneo | 115.50 | 1 | 129.47 | 6 | 11330 | 19000 | 11 |
| <i>Arctictis binturong</i> | Female | Palawan | Borneo | 115.04 | 1 | 132.76 | 10 | 12189 | 21900 | 12 |
| <i>Arctictis binturong</i> | Male | Palawan | Borneo | 118.17 | 1 | 129.47 | 6 | 12189 | 19000 | 11 |
| <i>Arctogalidia trivirgata</i> | Female | Banggi | Borneo | 93.26 | 1 | 102.08 | 22 | 441 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Female | Bangka | Borneo | 95.17 | 1 | 102.08 | 22 | 11330 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Female | Batam | Malay Peninsula | 97.18 | 2 | 103.33 | 4 | 470 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Male | Batam | Malay Peninsula | 104.21 | 1 | 108.56 | 9 | 470 | 2350 | 2 |
| <i>Arctogalidia trivirgata</i> | Female | Bunguran | Borneo | 90.13 | 2 | 102.08 | 22 | 1485 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Male | Bunguran | Borneo | 100.09 | 3 | 108.05 | 24 | 1485 | 2350 | 2 |
| <i>Arctogalidia trivirgata</i> | Male | Lingga | Sumatra | 93.94 | 1 | 106.77 | 1 | 889 | 2350 | 2 |
| <i>Arctogalidia trivirgata</i> | Male | Pulo kundur | Sumatra | 97.77 | 2 | 106.77 | 1 | 315 | 2350 | 2 |
| <i>Arctogalidia trivirgata</i> | Female | Singapore | Malay Peninsula | 101.28 | 1 | 103.33 | 4 | 536 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Male | Singapore | Malay Peninsula | 104.60 | 1 | 108.56 | 9 | 536 | 2350 | 2 |
| <i>Arctogalidia trivirgata</i> | Female | Singkep | Sumatra | 97.51 | 1 | 102.95 | 8 | 757 | 2346 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km²) | Body mass (g) | Mass source |
|--------------------------------|------------|-----------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|-------------------------------------|----------------------|--------------------|
| <i>Arctogalidia trivirgata</i> | Female | Terutau | Malay Peninsula | 91.37 | 1 | 103.33 | 4 | 151 | 2346 | 9 |
| <i>Arctogalidia trivirgata</i> | Male | Terutau | Malay Peninsula | 100.63 | 1 | 108.56 | 9 | 151 | 2350 | 2 |
| <i>Atilax paludinosus</i> | Male | Pemba | E. Africa 3-7S, E. of 37E | 95.61 | 1 | 102.87 | 4 | 890 | 4005 | 12 |
| <i>Bassariscus astutus</i> | Female | Espiritu Santo | Baja California Sur | 73.79 | 8 | 72.25 | 12 | 100 | 939 | 12 |
| <i>Bassariscus astutus</i> | Male | Espiritu Santo | Baja California Sur | 76.10 | 6 | 75.52 | 8 | 100 | 1320 | 12 |
| <i>Bassariscus astutus</i> | Female | San Jose | Baja California Sur | 73.28 | 6 | 72.25 | 12 | 194 | 939 | 12 |
| <i>Bassariscus astutus</i> | Male | San Jose | Baja California Sur | 75.18 | 6 | 75.52 | 8 | 194 | 1320 | 12 |
| <i>Bdeogale crassicauda</i> | Male | Zanzibar | E. Africa 4-8S, E. of 37E | 83.58 | 1 | 86.74 | 1 | 1575 | 1960 | 12 |
| <i>Canis latrans</i> | Female | Magdalena | Baja California Sur | 166.82 | 1 | 162.23 | 11 | 290 | 10200 | 9 |
| <i>Canis latrans</i> | Male | Magdalena | Baja California Sur | 177.47 | 2 | 170.74 | 7 | 290 | 11350 | 9 |
| <i>Canis latrans</i> | Male | Tiburon | Sonora | 171.88 | 2 | 174.15 | 2 | 1208 | 11350 | 9 |
| <i>Canis lupus</i> | Female | Axel Heidberg | Ellesmere | 224.04 | 1 | 223.24 | 6 | 43178 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Axel Heidberg | Ellesmere | 235.64 | 1 | 237.93 | 7 | 43178 | 47216 | 9 |
| <i>Canis lupus</i> | Male | Gambier | NW America W. of the Rockies, 47-55N | 236.96 | 1 | 242.22 | 4 | 70 | 47216 | 9 |
| <i>Canis lupus</i> | Male | Heceta | Prince of Wales | 249.25 | 1 | 235.56 | 11 | 189 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Kosciusko | Prince of Wales | 223.17 | 1 | 227.30 | 15 | 482 | 35412 | 9 |
| <i>Canis lupus</i> | Female | Kuiu | NW America W. of the Rockies, 55-60N | 232.15 | 5 | 234.81 | 3 | 1933 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Kuiu | NW America W. of the Rockies, 55-60N | 237.14 | 2 | 243.67 | 3 | 1933 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Kupreanof | NW America W. of the Rockies, 55-60N | 229.69 | 4 | 234.81 | 3 | 2822 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Kupreanof | NW America W. of the Rockies, 55-60N | 240.61 | 2 | 243.67 | 3 | 2822 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Prince of Wales | NW America W. of the Rockies, 55-60N | 227.30 | 15 | 234.81 | 3 | 6675 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 235.56 | 11 | 243.67 | 3 | 6675 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Quadra | NW America W. of the Rockies, 47-54N | 232.86 | 1 | 230.27 | 3 | 270 | 35412 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|--------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Canis lupus</i> | Female | Read | NW America W. of the Rockies, 47-54N | 224.06 | 1 | 230.27 | 3 | 408 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Read | NW America W. of the Rockies, 47-54N | 225.20 | 1 | 242.22 | 4 | 408 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Revillagigedo | NW America W. of the Rockies, 55-60N | 230.38 | 3 | 234.81 | 3 | 3024 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Revillagigedo | NW America W. of the Rockies, 55-60N | 240.07 | 3 | 243.67 | 3 | 3024 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-54N | 227.29 | 27 | 230.27 | 3 | 33800 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 237.73 | 35 | 242.22 | 4 | 33800 | 47216 | 9 |
| <i>Canis lupus</i> | Female | Wrangell | NW America W. of the Rockies, 55-60N | 230.37 | 4 | 234.81 | 3 | 569 | 35412 | 9 |
| <i>Canis lupus</i> | Male | Wrangell | NW America W. of the Rockies, 55-60N | 243.42 | 6 | 243.67 | 3 | 569 | 47216 | 9 |
| <i>Eira barbara</i> | Female | Trinidad | S. America N. of 6N, 58-66W | 101.47 | 1 | 105.01 | 5 | 5009 | 4550 | 9 |
| <i>Eira barbara</i> | Male | Trinidad | S. America N. of 6N, 58-66W | 104.61 | 3 | 113.94 | 3 | 5009 | 6115 | 9 |
| <i>Felis bengalensis</i> | Female | Bali | Java | 75.63 | 1 | 75.94 | 24 | 5620 | 2450 | 4 |
| <i>Felis bengalensis</i> | Male | Bali | Java | 76.61 | 5 | 80.68 | 18 | 5620 | 3050 | 4 |
| <i>Felis bengalensis</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 80.77 | 4 | 84.60 | 2 | 33940 | 2450 | 4 |
| <i>Felis bengalensis</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 83.57 | 1 | 86.99 | 8 | 33940 | 3050 | 4 |
| <i>Felis bengalensis</i> | Female | Palawan | Borneo | 72.04 | 1 | 77.26 | 6 | 12189 | 2450 | 4 |
| <i>Felis bengalensis</i> | Male | Palawan | Borneo | 78.20 | 3 | 78.92 | 12 | 12189 | 3050 | 4 |
| <i>Felis bengalensis</i> | Female | Pinang | Malay Peninsula | 71.16 | 1 | 82.53 | 6 | 295 | 2450 | 4 |
| <i>Felis bengalensis</i> | Female | Singapore | Malay Peninsula | 78.24 | 2 | 82.53 | 6 | 536 | 2450 | 4 |
| <i>Felis bengalensis</i> | Male | Taiwan | China S. of 30N, E. of 110E | 84.16 | 1 | 89.52 | 8 | 34507 | 3050 | 4 |
| <i>Felis concolor</i> | Male | Nootka | Vancouver Island | 197.20 | 1 | 190.52 | 10 | 510 | 59500 | 13 |
| <i>Felis concolor</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 177.29 | 13 | 175.30 | 1 | 33800 | 39850 | 13 |
| <i>Felis concolor</i> | Male | Vancouver island | NW America W. of the Rockies, 47-55N | 190.52 | 10 | 184.55 | 2 | 33800 | 59500 | 13 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|----------------------------|------------|------------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Galerella sanguinea</i> | Female | Zanzibar | E. Africa 4-8S, E. of 37E | 56.40 | 1 | 63.08 | 1 | 1575 | 421 | 12 |
| <i>Gulo gulo</i> | Female | Mitkof | NW America W. of the Rockies, 55-60N | 133.10 | 1 | 136.75 | 2 | 547 | 6600 | 9 |
| <i>Gulo gulo</i> | Male | Mitkof | NW America W. of the Rockies, 55-60N | 140.10 | 1 | 145.90 | 2 | 547 | 11753 | 9 |
| <i>Gulo gulo</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 131.49 | 2 | 138.45 | 1 | 33800 | 6600 | 9 |
| <i>Gulo gulo</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 144.46 | 2 | 135.03 | 3 | 33800 | 11753 | 9 |
| <i>Hemigalus derbyanus</i> | Female | South Pagai | Sumatra | 90.71 | 2 | 101.32 | 5 | 987 | 1909 | 9 |
| <i>Hemigalus derbyanus</i> | Male | South Pagai | Sumatra | 92.63 | 3 | 100.37 | 11 | 987 | 2375 | 10 |
| <i>Herpestes javanicus</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 64.29 | 7 | 67.58 | 4 | 33940 | 2125 | 9 |
| <i>Herpestes javanicus</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 70.15 | 3 | 74.03 | 20 | 33940 | 2450 | 9 |
| <i>Herpestes javanicus</i> | Male | Madura | Java | 80.68 | 1 | 80.55 | 28 | 4560 | 2450 | 9 |
| <i>Herpestes urva</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 93.53 | 1 | 95.00 | 3 | 33940 | 2250 | 14 |
| <i>Herpestes urva</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 95.66 | 1 | 97.47 | 1 | 33940 | 1312 | 9 |
| <i>Herpestes urva</i> | Female | Taiwan | China S. of 30N, E. of 110E | 87.54 | 10 | 94.82 | 5 | 34507 | 2250 | 14 |
| <i>Herpestes urva</i> | Male | Taiwan | China S. of 30N, E. of 110E | 89.91 | 5 | 94.56 | 5 | 34507 | 1312 | 9 |
| <i>Lontra canadensis</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 122.24 | 2 | 120.61 | 4 | 4310 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Baranof | NW America W. of the Rockies, 55-60N | 116.91 | 8 | 121.19 | 2 | 4163 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Baranof | NW America W. of the Rockies, 55-60N | 122.28 | 8 | 120.61 | 4 | 4163 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Cape Breton | Canada S. of 52N, E. of 65W | 111.26 | 2 | 110.90 | 20 | 10280 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Cape Breton | Canada S. of 52N, E. of 65W | 116.00 | 1 | 114.02 | 26 | 10280 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Chichagof | NW America W. of the Rockies, 55-60N | 119.61 | 8 | 121.19 | 2 | 5449 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 121.66 | 6 | 120.61 | 4 | 5449 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Graham | NW America W. of the Rockies, 53-58N | 113.22 | 1 | 121.19 | 2 | 6361 | 6700 | 12 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|----------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Lontra canadensis</i> | Male | Graham | NW America W. of the Rockies, 53-58N | 116.82 | 1 | 119.19 | 2 | 6361 | 11577 | 9 |
| <i>Lontra canadensis</i> | Male | Halleck | Baranof | 126.34 | 1 | 122.28 | 8 | 33 | 11577 | 9 |
| <i>Lontra canadensis</i> | Male | Krestof | NW America W. of the Rockies, 55-60N | 123.29 | 1 | 120.61 | 4 | 28 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Kruzof | Baranof | 115.69 | 1 | 116.91 | 8 | 447 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Kruzof | Baranof | 121.26 | 1 | 122.28 | 8 | 447 | 11577 | 9 |
| <i>Lontra canadensis</i> | Male | Kuiu | NW America W. of the Rockies, 55-60N | 121.24 | 1 | 120.61 | 4 | 1933 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Marble | Prince of Wales | 116.97 | 1 | 116.01 | 4 | 23 | 6700 | 12 |
| <i>Lontra canadensis</i> | Female | Montague | NW America S. of 62N, 143-152W | 113.54 | 1 | 112.03 | 4 | 850 | 6700 | 12 |
| <i>Lontra canadensis</i> | Female | Moresby | NW America W. of the Rockies, 53-58N | 115.90 | 1 | 121.19 | 2 | 2636 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Moresby | NW America W. of the Rockies, 53-58N | 119.78 | 1 | 119.19 | 2 | 2636 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Prince of Wales | NW America W. of the Rockies, 55-60N | 116.01 | 4 | 121.19 | 2 | 6675 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 124.09 | 6 | 120.61 | 4 | 6675 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 114.75 | 9 | 104.91 | 2 | 33800 | 6700 | 12 |
| <i>Lontra canadensis</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 119.36 | 3 | 114.48 | 10 | 33800 | 11577 | 9 |
| <i>Lontra canadensis</i> | Female | Wrangell | NW America W. of the Rockies, 55-60N | 120.26 | 2 | 121.19 | 2 | 569 | 6700 | 12 |
| <i>Lontra provocax</i> | Female | Chiloe | Chile, 40-44S | 104.73 | 1 | 111.29 | 1 | 8394 | 7500 | 7 |
| <i>Lutra lutra</i> | Female | South Uist | Britain | 114.36 | 1 | 107.85 | 9 | 434 | 6339 | 9 |
| <i>Lutra lutra</i> | Male | South Uist | Britain | 117.84 | 1 | 115.91 | 12 | 434 | 10292 | 9 |
| <i>Lutra perspicillata</i> | Female | Langkawi | Malay Peninsula | 118.54 | 1 | 119.55 | 3 | 363 | 7300 | 6 |
| <i>Lutra perspicillata</i> | Male | Singapore | Malay Peninsula | 127.40 | 1 | 121.95 | 1 | 536 | 10000 | 12 |
| <i>Lutra sumatrana</i> | Female | Laut | Borneo | 104.93 | 1 | 99.82 | 2 | 2057 | 5500 | 12 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|-------------------------|--------|-----------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Martes americana</i> | Female | Admiralty | NW America W. of the Rockies, 55-60N | 75.13 | 2 | 74.71 | 11 | 4310 | 763 | 9 |
| <i>Martes americana</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 83.14 | 4 | 81.19 | 10 | 4310 | 1287 | 9 |
| <i>Martes americana</i> | Male | Baranof | NW America W. of the Rockies, 55-60N | 83.30 | 1 | 81.19 | 10 | 4163 | 1287 | 9 |
| <i>Martes americana</i> | Female | Chichagof | NW America W. of the Rockies, 55-60N | 75.59 | 34 | 74.71 | 11 | 5449 | 763 | 9 |
| <i>Martes americana</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 82.62 | 53 | 81.19 | 10 | 5449 | 1287 | 9 |
| <i>Martes americana</i> | Male | Gilford | NW America W. of the Rockies, 47-55N | 76.97 | 4 | 77.96 | 45 | 382 | 1287 | 9 |
| <i>Martes americana</i> | Female | Graham | NW America W. of the Rockies, 53-58N | 75.50 | 1 | 74.12 | 18 | 6361 | 763 | 9 |
| <i>Martes americana</i> | Male | Graham | NW America W. of the Rockies, 53-58N | 79.57 | 1 | 80.18 | 21 | 6361 | 1287 | 9 |
| <i>Martes americana</i> | Male | Kruzof | Baranof | 79.97 | 2 | 105.88 | 2 | 447 | 1287 | 9 |
| <i>Martes americana</i> | Male | Kupreanof | NW America W. of the Rockies, 55-60N | 81.30 | 2 | 81.19 | 10 | 2822 | 1287 | 9 |
| <i>Martes americana</i> | Female | Louise | Moresby | 74.69 | 9 | 74.63 | 16 | 275 | 763 | 9 |
| <i>Martes americana</i> | Male | Louise | Moresby | 82.03 | 7 | 82.31 | 34 | 275 | 1287 | 9 |
| <i>Martes americana</i> | Female | Mitkof | NW America W. of the Rockies, 55-60N | 73.99 | 16 | 74.71 | 11 | 547 | 763 | 9 |
| <i>Martes americana</i> | Male | Mitkof | NW America W. of the Rockies, 55-60N | 80.25 | 26 | 81.19 | 10 | 547 | 1287 | 9 |
| <i>Martes americana</i> | Female | Moresby | NW America W. of the Rockies, 53-58N | 74.63 | 16 | 74.12 | 18 | 2636 | 763 | 9 |
| <i>Martes americana</i> | Male | Moresby | NW America W. of the Rockies, 53-58N | 82.31 | 34 | 80.18 | 21 | 2636 | 1287 | 9 |
| <i>Martes americana</i> | Female | Prince of Wales | NW America W. of the Rockies, 55-60N | 73.96 | 8 | 74.71 | 11 | 6675 | 763 | 9 |
| <i>Martes americana</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 82.72 | 12 | 81.19 | 10 | 6675 | 1287 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km ²) | Body mass (g) | Mass source |
|-------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|--------------------------------|---------------|-------------|
| <i>Martes americana</i> | Female | Revillagigedo | NW America W. of the Rockies, 55-60N | 73.56 | 5 | 81.19 | 10 | 3024 | 763 | 9 |
| <i>Martes americana</i> | Male | Revillagigedo | NW America W. of the Rockies, 55-60N | 82.60 | 8 | 81.19 | 10 | 3024 | 1287 | 9 |
| <i>Martes americana</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 72.64 | 83 | 72.06 | 24 | 33800 | 763 | 9 |
| <i>Martes americana</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 80.01 | 119 | 77.96 | 45 | 33800 | 1287 | 9 |
| <i>Martes flavigula</i> | Female | Taiwan | China S. of 30N, E. of 110E | 86.91 | 2 | 90.54 | 2 | 34507 | 1471 | 9 |
| <i>Martes flavigula</i> | Male | Taiwan | China S. of 30N, E. of 110E | 92.65 | 1 | 101.25 | 2 | 34507 | 2187 | 9 |
| <i>Martes foina</i> | Male | Crete | Peloponesus | 76.26 | 2 | 83.13 | 1 | 8336 | 1468 | 9 |
| <i>Martes foina</i> | Female | Fyn | Jutland | 79.05 | 12 | 78.05 | 3 | 2985 | 1053 | 9 |
| <i>Martes foina</i> | Male | Fyn | Jutland | 82.36 | 16 | 82.90 | 5 | 2985 | 1468 | 9 |
| <i>Martes foina</i> | Female | Ibiza | Spain S. of 41N, W. of 2W | 77.29 | 1 | 76.69 | 1 | 541 | 1053 | 9 |
| <i>Martes foina</i> | Female | Lolland | Jutland | 77.19 | 1 | 78.05 | 3 | 1243 | 1053 | 9 |
| <i>Martes foina</i> | Male | Lolland | Jutland | 84.63 | 2 | 82.90 | 5 | 1243 | 1468 | 9 |
| <i>Martes foina</i> | Female | Sjaelland | Jutland | 77.26 | 11 | 78.05 | 3 | 7180 | 1053 | 9 |
| <i>Martes foina</i> | Male | Sjaelland | Jutland | 80.93 | 10 | 82.90 | 5 | 7180 | 1468 | 9 |
| <i>Martes martes</i> | Female | Sardinia | Italy S. of 43N | 82.78 | 1 | 78.54 | 1 | 23833 | 982 | 12 |
| <i>Martes martes</i> | Male | Sardinia | Italy S. of 43N | 78.44 | 2 | 80.80 | 6 | 23833 | 1310 | 12 |
| <i>Martes martes</i> | Female | Sjaelland | Jutland | 79.76 | 6 | 81.10 | 2 | 7180 | 982 | 12 |
| <i>Martes martes</i> | Male | Sjaelland | Jutland | 87.78 | 8 | 87.05 | 7 | 7180 | 1310 | 12 |
| <i>Martes melampus</i> | Female | Kyushu | Honshu | 75.15 | 2 | 78.18 | 37 | 36719 | 900 | 9 |
| <i>Martes melampus</i> | Male | Kyushu | Honshu | 81.34 | 1 | 85.10 | 78 | 36719 | 1200 | 9 |
| <i>Martes melampus</i> | Male | Sado | Honshu | 88.32 | 2 | 85.10 | 78 | 857 | 1200 | 9 |
| <i>Martes melampus</i> | Female | Tsushima | Kyushu | 76.77 | 1 | 75.15 | 2 | 689 | 900 | 9 |
| <i>Martes melampus</i> | Male | Tsushima | Kyushu | 82.66 | 7 | 81.34 | 1 | 689 | 1200 | 9 |
| <i>Meles meles</i> | Male | Crete | Turkey W. of 32E | 113.70 | 1 | 124.40 | 1 | 8336 | 9925 | 9 |
| <i>Meles meles</i> | Female | Fyn | Jutland | 131.06 | 2 | 131.15 | 53 | 2985 | 9135 | 9 |
| <i>Meles meles</i> | Male | Fyn | Jutland | 138.81 | 1 | 133.85 | 55 | 2985 | 9925 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|--------------------------|--------|-----------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Meles meles</i> | Male | Kyushu | Honshu | 104.34 | 1 | 107.29 | 4 | 36719 | 9925 | 9 |
| <i>Meles meles</i> | Female | Lolland | Jutland | 129.39 | 2 | 131.15 | 53 | 1243 | 9135 | 9 |
| <i>Meles meles</i> | Male | Lolland | Jutland | 133.88 | 4 | 133.85 | 55 | 1243 | 9925 | 9 |
| <i>Meles meles</i> | Male | Shikoku | Honshu | 107.11 | 2 | 107.29 | 4 | 18765 | 9925 | 9 |
| <i>Meles meles</i> | Female | Sjaelland | Jutland | 131.24 | 14 | 131.15 | 53 | 7180 | 9135 | 9 |
| <i>Meles meles</i> | Male | Sjaelland | Jutland | 136.15 | 17 | 133.85 | 55 | 7180 | 9925 | 9 |
| <i>Melogale moschata</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 69.81 | 8 | 71.30 | 6 | 33940 | 810 | 9 |
| <i>Melogale moschata</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 72.96 | 4 | 75.88 | 2 | 33940 | 796 | 9 |
| <i>Melogale moschata</i> | Female | Taiwan | China S. of 30N, E. of 110E | 71.66 | 28 | 71.68 | 7 | 34507 | 810 | 9 |
| <i>Melogale moschata</i> | Male | Taiwan | China S. of 30N, E. of 110E | 73.09 | 22 | 76.30 | 5 | 34507 | 796 | 9 |
| <i>Mustela erminea</i> | Female | Admiralty | NW America W. of the Rockies, 55-60N | 36.56 | 8 | 36.52 | 15 | 4310 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 42.15 | 18 | 42.83 | 31 | 4310 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Afognak | kodiak | 42.97 | 1 | 44.20 | 14 | 1809 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Baranof | NW America W. of the Rockies, 55-60N | 41.31 | 4 | 42.83 | 31 | 4163 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Barter | Alaska N. of 69N, 142-146W | 45.35 | 1 | 45.32 | 6 | 38 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Cape Breton | Canada S. of 52N, E. of 65W | 36.05 | 4 | 35.85 | 3 | 10280 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Cape Breton | Canada S. of 52N, E. of 65W | 42.40 | 9 | 43.60 | 4 | 10280 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Charlton Island | Quebe, S. of 54N, W of 79W | 46.16 | 1 | 44.07 | 1 | 93 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 41.18 | 5 | 42.83 | 31 | 5449 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Douglas | NW America W. of the Rockies, 55-60N | 36.67 | 1 | 36.52 | 15 | 203 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Etolin | NW America W. of the Rockies, 55-60N | 39.82 | 1 | 42.83 | 31 | 889 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Falster | Sjaelland | 42.65 | 1 | 43.41 | 20 | 514 | 198 | 9 |
| <i>Mustela erminea</i> | Male | Falster | Sjaelland | 46.62 | 1 | 48.02 | 19 | 514 | 282 | 9 |
| <i>Mustela erminea</i> | Female | Fyn | Jutland | 42.78 | 3 | 43.51 | 6 | 2985 | 198 | 9 |
| <i>Mustela erminea</i> | Male | Fyn | Jutland | 47.22 | 7 | 47.16 | 8 | 2985 | 282 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|------------------------|--------|-----------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Mustela erminea</i> | Male | Graham | NW America W. of the Rockies, 53-58N | 40.98 | 4 | 42.91 | 21 | 6361 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Heceta | Prince of Wales | 37.29 | 1 | 36.31 | 1 | 189 | 70 | 9 |
| <i>Mustela erminea</i> | Female | Islay | Britain | 46.40 | 3 | 45.51 | 65 | 622 | 198 | 9 |
| <i>Mustela erminea</i> | Male | Islay | Britain | 48.27 | 6 | 49.33 | 82 | 622 | 282 | 9 |
| <i>Mustela erminea</i> | Female | Jersey | France N. of 46N W. of Greenwich | 43.22 | 1 | 45.43 | 1 | 117 | 198 | 9 |
| <i>Mustela erminea</i> | Male | Jersey | France N. of 46N W. of Greenwich | 45.30 | 3 | 49.49 | 1 | 117 | 282 | 9 |
| <i>Mustela erminea</i> | Female | Kodiak | Alaska S. of 61N, 150-160W | 37.93 | 4 | 41.57 | 9 | 9293 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Kodiak | Alaska S. of 61N, 150-160W | 44.20 | 14 | 44.91 | 13 | 9293 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Lolland | Jutland | 45.66 | 1 | 47.16 | 8 | 1243 | 282 | 9 |
| <i>Mustela erminea</i> | Female | Mitkof | NW America W. of the Rockies, 55-60N | 37.37 | 9 | 36.52 | 15 | 547 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Mitkof | NW America W. of the Rockies, 55-60N | 42.74 | 18 | 42.83 | 31 | 547 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Moresby | NW America W. of the Rockies, 53-58N | 36.52 | 1 | 36.58 | 11 | 2636 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Moresby | NW America W. of the Rockies, 53-58N | 41.15 | 1 | 42.91 | 21 | 2636 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Prince of Wales | NW America W. of the Rockies, 55-60N | 36.31 | 1 | 36.52 | 15 | 6675 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 42.55 | 24 | 42.83 | 31 | 6675 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Revillagigedo | NW America W. of the Rockies, 55-60N | 39.69 | 1 | 42.83 | 31 | 3024 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Saltspring | Vancouver Island | 36.32 | 2 | 37.28 | 17 | 181 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Sjaelland | Jutland | 43.41 | 20 | 43.51 | 6 | 7180 | 198 | 9 |
| <i>Mustela erminea</i> | Male | Sjaelland | Jutland | 48.02 | 19 | 47.16 | 8 | 7180 | 282 | 9 |
| <i>Mustela erminea</i> | Female | Southampton | Nunavut N. of 62N, E. of 98W | 37.72 | 6 | 36.02 | 2 | 41214 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Southampton | Nunavut N. of 62N, E. of 98W | 41.54 | 13 | 44.44 | 4 | 41214 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Suemez | Prince of Wales | 41.23 | 2 | 42.55 | 24 | 153 | 193 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|-------------------------|------------|------------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Mustela erminea</i> | Male | Unimak | Alaska Peninsula | 46.37 | 1 | 45.02 | 5 | 4119 | 193 | 9 |
| <i>Mustela erminea</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 35.28 | 7 | 33.56 | 14 | 33800 | 70 | 9 |
| <i>Mustela erminea</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 37.28 | 17 | 38.93 | 61 | 33800 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Whidby | NW America W. of the Rockies, 47-55N | 38.60 | 1 | 38.93 | 61 | 445 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Wrangell | NW America W. of the Rockies, 55-60N | 40.78 | 1 | 42.83 | 31 | 569 | 193 | 9 |
| <i>Mustela erminea</i> | Male | Ymer | Greenland | 45.24 | 2 | 45.28 | 12 | 2437 | 193 | 9 |
| <i>Mustela nivalis</i> | Female | Crete | Turkey W. of 30E | 39.36 | 2 | 39.55 | 1 | 8336 | 80 | 9 |
| <i>Mustela nivalis</i> | Male | Crete | Turkey W. of 30E | 45.71 | 2 | 41.51 | 2 | 8336 | 134 | 9 |
| <i>Mustela nivalis</i> | Female | Falster | Sjaelland | 32.93 | 1 | 33.35 | 5 | 514 | 80 | 9 |
| <i>Mustela nivalis</i> | Male | Mallorca | Spain S. of 41N, W. of 1W | 39.75 | 2 | 39.61 | 6 | 3640 | 134 | 9 |
| <i>Mustela nivalis</i> | Female | Sjaelland | Jutland | 33.35 | 5 | 32.02 | 1 | 7180 | 80 | 9 |
| <i>Mustela nivalis</i> | Male | Sjaelland | Jutland | 37.63 | 9 | 36.01 | 3 | 7180 | 134 | 9 |
| <i>Mustela putorius</i> | Male | Aero | Jutland | 75.72 | 1 | 69.07 | 17 | 96 | 1255 | 12 |
| <i>Mustela putorius</i> | Male | Fyn | Jutland | 67.27 | 2 | 69.07 | 17 | 2985 | 1255 | 12 |
| <i>Mustela putorius</i> | Female | Sjaelland | Jutland | 60.76 | 8 | 61.26 | 8 | 7180 | 723 | 12 |
| <i>Mustela putorius</i> | Male | Sjaelland | Jutland | 69.23 | 14 | 69.07 | 17 | 7180 | 1255 | 12 |
| <i>Mustela sibirica</i> | Female | Cheju Do | South Korea | 49.86 | 2 | 53.52 | 4 | 1860 | 272 | 9 |
| <i>Mustela sibirica</i> | Male | Cheju Do | South Korea | 58.38 | 1 | 68.54 | 1 | 1860 | 775 | 9 |
| <i>Mustela sibirica</i> | Male | Iki | Kyushu | 58.16 | 3 | 59.08 | 5 | 135 | 775 | 9 |
| <i>Mustela sibirica</i> | Male | Iriomoto | Taiwan | 53.79 | 1 | 60.98 | 10 | 284 | 775 | 9 |
| <i>Mustela sibirica</i> | Female | Kyushu | Honshu | 49.83 | 4 | 46.72 | 13 | 36719 | 272 | 9 |
| <i>Mustela sibirica</i> | Male | Kyushu | Honshu | 59.08 | 5 | 57.06 | 91 | 36719 | 775 | 9 |
| <i>Mustela sibirica</i> | Male | Sado | Honshu | 55.84 | 9 | 57.06 | 91 | 857 | 775 | 9 |
| <i>Mustela sibirica</i> | Female | Shikoku | Honshu | 45.22 | 1 | 46.72 | 13 | 18765 | 272 | 9 |
| <i>Mustela sibirica</i> | Male | Shikoku | Honshu | 54.30 | 5 | 57.06 | 91 | 18765 | 775 | 9 |
| <i>Mustela sibirica</i> | Female | Taiwan | China S. of 30N, E. of 110E | 54.23 | 2 | 53.96 | 3 | 34507 | 272 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|-------------------------|------------|------------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Mustela sibirica</i> | Male | Taiwan | China S. of 30N, E. of 110E | 60.98 | 10 | 63.40 | 5 | 34507 | 775 | 9 |
| <i>Mustela sibirica</i> | Female | Tsushima | Kyushu | 53.23 | 1 | 49.83 | 4 | 689 | 272 | 9 |
| <i>Mustela sibirica</i> | Male | Tsushima | Kyushu | 60.68 | 20 | 59.08 | 5 | 689 | 775 | 9 |
| <i>Mustela sibirica</i> | Male | Yakushima | Kyushu | 51.15 | 1 | 59.08 | 5 | 539 | 775 | 9 |
| <i>Mustela vison</i> | Female | Admiralty | NW America W. of the Rockies, 55-60N | 61.91 | 3 | 63.60 | 9 | 4310 | 768 | 9 |
| <i>Mustela vison</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 69.20 | 6 | 70.51 | 12 | 4310 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Baranof | NW America W. of the Rockies, 55-60N | 63.62 | 13 | 63.60 | 9 | 4163 | 768 | 9 |
| <i>Mustela vison</i> | Male | Baranof | NW America W. of the Rockies, 55-60N | 69.90 | 31 | 70.51 | 12 | 4163 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Broughton | NW America W. of the Rockies, 47-55N | 61.92 | 1 | 60.14 | 6 | 128 | 768 | 9 |
| <i>Mustela vison</i> | Male | Calvert | NW America W. of the Rockies, 49-55N | 66.51 | 1 | 66.87 | 7 | 329 | 1213 | 9 |
| <i>Mustela vison</i> | Male | Cape Breton | Canada S. of 52N, E. of 65W | 60.90 | 1 | 61.36 | 1 | 10280 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Chichagof | NW America W. of the Rockies, 55-60N | 62.78 | 7 | 63.60 | 9 | 5449 | 768 | 9 |
| <i>Mustela vison</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 69.44 | 8 | 70.51 | 12 | 5449 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Coronation | Kuiu | 63.52 | 1 | 64.62 | 2 | 91 | 768 | 9 |
| <i>Mustela vison</i> | Male | Coronation | Kuiu | 68.11 | 1 | 72.29 | 2 | 91 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Esther | Chichagof | 63.23 | 1 | 62.78 | 7 | 133 | 768 | 9 |
| <i>Mustela vison</i> | Female | Etolin | NW America W. of the Rockies, 55-60N | 63.95 | 2 | 63.60 | 9 | 889 | 768 | 9 |
| <i>Mustela vison</i> | Male | Etolin | NW America W. of the Rockies, 55-60N | 68.86 | 1 | 70.51 | 12 | 889 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Hinchinbrook | Alaska S. of 62N, 145-151W | 63.28 | 2 | 63.19 | 4 | 442 | 768 | 9 |
| <i>Mustela vison</i> | Male | Hinchinbrook | Alaska S. of 62N, 145-151W | 67.27 | 3 | 67.66 | 3 | 442 | 1213 | 9 |
| <i>Mustela vison</i> | Male | King Island (BC) | NW America W. of the Rockies, 47-55N | 67.64 | 1 | 67.02 | 10 | 808 | 1213 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|----------------------|------------|---------------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Mustela vison</i> | Female | Kodiak | Alaska S. of 61N, 150-160W | 60.88 | 1 | 60.06 | 8 | 9293 | 768 | 9 |
| <i>Mustela vison</i> | Female | Kuiu | NW America W. of the Rockies, 55-60N | 64.62 | 2 | 63.60 | 9 | 1933 | 768 | 9 |
| <i>Mustela vison</i> | Male | Kuiu | NW America W. of the Rockies, 55-60N | 72.29 | 2 | 70.51 | 12 | 1933 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Kupreanof | NW America W. of the Rockies, 55-60N | 62.92 | 3 | 63.60 | 9 | 2822 | 768 | 9 |
| <i>Mustela vison</i> | Male | Kupreanof | NW America W. of the Rockies, 55-60N | 69.71 | 3 | 70.51 | 12 | 2822 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Mitkof | NW America W. of the Rockies, 55-60N | 65.03 | 3 | 63.60 | 9 | 547 | 768 | 9 |
| <i>Mustela vison</i> | Male | Mitkof | NW America W. of the Rockies, 55-60N | 70.60 | 3 | 70.51 | 12 | 547 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Mount Desert Island | Maine | 56.74 | 3 | 57.31 | 10 | 275 | 768 | 9 |
| <i>Mustela vison</i> | Male | Mount Desert Island | Maine | 62.86 | 1 | 61.14 | 16 | 275 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Nunivak | Alaska 58-62N, W. of 162W | 64.35 | 10 | 65.48 | 6 | 4209 | 768 | 9 |
| <i>Mustela vison</i> | Male | Nunivak | Alaska 58-62N, W. of 162W | 69.66 | 11 | 73.48 | 21 | 4209 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Price Island | NW America W. of the Rockies, 47-55N | 66.19 | 1 | 60.14 | 6 | 166 | 768 | 9 |
| <i>Mustela vison</i> | Female | Prince of Wales | NW America W. of the Rockies, 55-60N | 62.69 | 1 | 63.60 | 9 | 6675 | 768 | 9 |
| <i>Mustela vison</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 68.53 | 2 | 70.51 | 12 | 6675 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Revillagigedo | NW America W. of the Rockies, 55-60N | 64.06 | 6 | 63.60 | 9 | 3024 | 768 | 9 |
| <i>Mustela vison</i> | Male | Revillagigedo | NW America W. of the Rockies, 55-60N | 70.15 | 3 | 70.51 | 12 | 3024 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Sidney | Vancouver Island | 60.52 | 2 | 61.80 | 19 | 9 | 768 | 9 |
| <i>Mustela vison</i> | Male | Sidney | Vancouver Island | 65.39 | 1 | 69.30 | 25 | 9 | 1213 | 9 |
| <i>Mustela vison</i> | Male | Suemez | Prince of Wales | 70.81 | 1 | 68.53 | 2 | 153 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 61.80 | 19 | 60.14 | 6 | 33800 | 768 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|-----------------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Mustela vison</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 69.30 | 25 | 67.02 | 10 | 33800 | 1213 | 9 |
| <i>Mustela vison</i> | Female | Wrangell | NW America W. of the Rockies, 55-60N | 65.29 | 2 | 63.60 | 9 | 569 | 768 | 9 |
| <i>Mustela vison</i> | Male | Wrangell | NW America W. of the Rockies, 55-60N | 72.11 | 4 | 70.51 | 12 | 569 | 1213 | 9 |
| <i>Mydaus javanensis</i> | Female | Bunguran | Borneo | 80.37 | 1 | 83.76 | 1 | 1485 | 1275 | 2 |
| <i>Mydaus marchei</i> | Male | Busuanga | Palawan | 70.66 | 1 | 77.41 | 3 | 938 | 894 | 9 |
| <i>Nyctereutes procyonoides</i> | Female | Amakusa | Kyushu | 107.06 | 1 | 104.78 | 2 | 610 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Female | Kyushu | Honshu | 104.78 | 2 | 108.73 | 36 | 36719 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Male | Kyushu | Honshu | 109.23 | 5 | 110.24 | 41 | 36719 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Female | Okushiri | Hokkaido | 109.58 | 1 | 111.91 | 3 | 145 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Male | Okushiri | Hokkaido | 109.77 | 4 | 110.83 | 2 | 145 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Female | Sado | Honshu | 103.10 | 1 | 108.73 | 36 | 857 | 4900 | 9 |
| <i>Nyctereutes procyonoides</i> | Male | Sado | Honshu | 106.46 | 1 | 110.24 | 41 | 857 | 4900 | 9 |
| <i>Paguma larvata</i> | Male | Singapore | Malay Peninsula | 131.90 | 1 | 128.75 | 7 | 536 | 2593 | 9 |
| <i>Paguma larvata</i> | Female | Taiwan | China S. of 30N, E. of 110E | 104.16 | 4 | 110.81 | 5 | 34507 | 2950 | 9 |
| <i>Paguma larvata</i> | Male | Taiwan | China S. of 30N, E. of 110E | 101.30 | 3 | 115.39 | 2 | 34507 | 2593 | 9 |
| <i>Panthera tigris</i> | Female | Bali | Java | 237.06 | 1 | 247.57 | 1 | 5620 | 116000 | 10 |
| <i>Panthera tigris</i> | Male | Bali | Java | 266.57 | 2 | 289.71 | 6 | 5620 | 198000 | 10 |
| <i>Paradoxurus hermaphroditus</i> | Female | Balabac | Palawan | 94.37 | 2 | 95.90 | 4 | 306 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Female | Bali | Java | 98.11 | 4 | 111.03 | 31 | 5620 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Bali | Java | 104.38 | 6 | 113.16 | 16 | 5620 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Male | Banggi | Borneo | 93.83 | 1 | 98.92 | 23 | 441 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Bangka | Borneo | 99.83 | 1 | 96.50 | 12 | 11330 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Bawean | Java | 113.18 | 1 | 113.16 | 16 | 200 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Billiton | Sumatra | 93.49 | 1 | 102.25 | 16 | 4833 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Busuanga | Palawan | 95.99 | 1 | 96.77 | 5 | 938 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Male | Con Son | Vietnam S. of 12N | 96.76 | 2 | 107.52 | 4 | 51 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 101.20 | 1 | 93.60 | 7 | 33940 | 2841 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|-----------------------------------|------------|-------------------------------|--------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Paradoxurus hermaphroditus</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 112.94 | 1 | 98.91 | 11 | 33940 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Kangean | Java | 94.45 | 2 | 111.03 | 31 | 430 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Kangean | Java | 97.32 | 1 | 113.16 | 16 | 430 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Male | Langkawi | Malay Peninsula | 98.54 | 1 | 104.58 | 30 | 363 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Male | Negros | Mindanao | 95.35 | 3 | 95.49 | 2 | 13670 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | North Pagai | Sumatra | 94.33 | 2 | 102.25 | 16 | 530 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Female | Palawan | Borneo | 95.90 | 4 | 96.50 | 12 | 12189 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Palawan | Borneo | 96.77 | 5 | 98.92 | 23 | 12189 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Pinang | Malay Peninsula | 100.57 | 2 | 101.70 | 19 | 295 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Pinang | Malay Peninsula | 109.10 | 2 | 104.58 | 30 | 295 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Pulo kundur | Sumatra | 103.75 | 2 | 102.25 | 16 | 315 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Saint Matthew (Zedetkyi Kyun) | Malay Peninsula | 101.17 | 1 | 104.58 | 30 | 176 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Simeulue | Sumatra | 94.58 | 3 | 102.25 | 16 | 1754 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Singapore | Malay Peninsula | 106.11 | 1 | 104.58 | 30 | 536 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Sipura | Sumatra | 99.25 | 1 | 102.25 | 16 | 601 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Sipura | Sumatra | 100.30 | 1 | 107.52 | 18 | 601 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | South Pagai | Sumatra | 101.19 | 1 | 102.25 | 16 | 987 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Female | Telebon | Malay Peninsula | 93.77 | 1 | 101.70 | 19 | 33 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Female | Terutau | Malay Peninsula | 100.16 | 1 | 101.70 | 19 | 151 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Terutau | Malay Peninsula | 104.21 | 7 | 104.58 | 30 | 151 | 1725 | 2 |
| <i>Paradoxurus hermaphroditus</i> | Female | Tioman | Malay Peninsula | 100.58 | 1 | 101.70 | 19 | 228 | 2841 | 9 |
| <i>Paradoxurus hermaphroditus</i> | Male | Tioman | Malay Peninsula | 101.75 | 1 | 104.58 | 30 | 228 | 1725 | 2 |
| <i>Potos flavus</i> | Male | Isla Parida | Panama | 84.60 | 1 | 87.41 | 8 | 15 | 2500 | 16 |
| <i>Potos flavus</i> | Female | Isla Popa | Panama | 83.16 | 2 | 84.64 | 10 | 53 | 2050 | 16 |
| <i>Potos flavus</i> | Male | Isla Popa | Panama | 85.15 | 2 | 87.41 | 8 | 53 | 2500 | 16 |
| <i>Potos flavus</i> | Female | Isla San Cristobal | Panama | 83.40 | 1 | 84.64 | 10 | 37 | 2050 | 16 |
| <i>Potos flavus</i> | Male | Isla San Cristobal | Panama | 87.92 | 2 | 87.41 | 8 | 37 | 2500 | 16 |
| <i>Prionodon linsang</i> | Female | Bangka | Borneo | 63.08 | 1 | 68.10 | 2 | 11330 | 608 | 9 |
| <i>Prionodon linsang</i> | Female | Billiton | Sumatra | 62.36 | 1 | 69.00 | 1 | 4833 | 608 | 9 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km²) | Body mass (g) | Mass source |
|----------------------------|------------|--------------------|--------------------------------------|-------------------------|------------------|--------------------------|-------------------|-------------------------------------|----------------------|--------------------|
| <i>Procyon lotor</i> | Female | Isla Bastimentos | Panama | 113.22 | 1 | 109.40 | 9 | 52 | 5710 | 12 |
| <i>Procyon lotor</i> | Male | Isla Bastimentos | Panama | 117.62 | 1 | 114.23 | 3 | 52 | 8090 | 12 |
| <i>Procyon lotor</i> | Female | Isla Popa | Panama | 114.91 | 2 | 109.40 | 9 | 53 | 5710 | 12 |
| <i>Procyon lotor</i> | Male | Isla Popa | Panama | 118.60 | 4 | 114.23 | 3 | 53 | 8090 | 12 |
| <i>Procyon lotor</i> | Female | Isla San Cristobal | Panama | 118.06 | 3 | 109.40 | 9 | 37 | 5710 | 12 |
| <i>Procyon lotor</i> | Male | Isla San Cristobal | Panama | 126.06 | 2 | 114.23 | 3 | 37 | 8090 | 12 |
| <i>Procyon lotor</i> | Male | Maria Madre | Sinaloa, Jalisco & Nayarit | 111.82 | 2 | 115.20 | 5 | 200 | 8090 | 12 |
| <i>Procyon lotor</i> | Female | New Providence | Florida | 100.57 | 4 | 105.11 | 23 | 228 | 5710 | 12 |
| <i>Procyon lotor</i> | Male | New Providence | Florida | 100.81 | 3 | 108.68 | 20 | 228 | 8090 | 12 |
| <i>Procyon lotor</i> | Male | Sanibel | Florida | 112.73 | 1 | 108.68 | 20 | 44 | 8090 | 12 |
| <i>Procyon lotor</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 105.48 | 18 | 110.52 | 3 | 33800 | 5710 | 12 |
| <i>Procyon lotor</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 109.15 | 17 | 113.41 | 4 | 33800 | 8090 | 12 |
| <i>Pseudalopex griseus</i> | Female | Chiloe | Chile, 40-44S | 108.85 | 1 | 115.81 | 2 | 8394 | 3340 | 8 |
| <i>Spilogale gracilis</i> | Female | Santa Cruz | California S. of 35N, W. of 117W | 51.25 | 1 | 50.95 | 5 | 294 | 355 | 15 |
| <i>Urocyon littoralis</i> | Female | San Clemente | California S. of 35N, W. of 117W | 92.57 | 5 | 115.87 | 10 | 145 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Female | San Miguel | California S. of 35N, W. of 117W | 98.64 | 6 | 115.87 | 10 | 37 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Male | San Miguel | California S. of 35N, W. of 117W | 101.58 | 3 | 119.10 | 15 | 37 | 4450 | 8 |
| <i>Urocyon littoralis</i> | Male | San Nicolas | California S. of 35N, W. of 117W | 104.21 | 1 | 119.10 | 15 | 58 | 4450 | 8 |
| <i>Urocyon littoralis</i> | Female | Santa Catalina | California S. of 35N, W. of 117W | 100.67 | 5 | 115.87 | 10 | 194 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Female | Santa Catalina | California S. of 35N, W. of 117W | 102.02 | 1 | 115.87 | 10 | 194 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Male | Santa Catalina | California S. of 35N, W. of 117W | 100.61 | 6 | 119.10 | 15 | 194 | 4450 | 8 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|---------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Urocyon littoralis</i> | Female | Santa Cruz | California S. of 35N, W. of 117W | 96.46 | 1 | 115.87 | 10 | 294 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Male | Santa Cruz | California S. of 35N, W. of 117W | 96.57 | 5 | 119.10 | 15 | 294 | 4450 | 8 |
| <i>Urocyon littoralis</i> | Female | Santa Rosa | California S. of 35N, W. of 117W | 97.22 | 1 | 115.87 | 10 | 217 | 2950 | 8 |
| <i>Urocyon littoralis</i> | Male | Santa Rosa | California S. of 35N, W. of 117W | 96.83 | 6 | 119.10 | 15 | 217 | 4450 | 8 |
| <i>Ursus americanus</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 261.78 | 2 | 280.94 | 9 | 4310 | 192450 | 12 |
| <i>Ursus americanus</i> | Female | Anticosti | Canada S. of 52N, E. of 67W | 251.71 | 1 | 234.47 | 2 | 7941 | 91000 | 12 |
| <i>Ursus americanus</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 310.32 | 1 | 280.94 | 9 | 5449 | 192450 | 12 |
| <i>Ursus americanus</i> | Male | Dall | Prince of Wales | 290.94 | 1 | 302.01 | 1 | 658 | 192450 | 12 |
| <i>Ursus americanus</i> | Female | Graham | NW America W. of the Rockies, 53-58N | 248.31 | 1 | 236.37 | 1 | 6361 | 91000 | 12 |
| <i>Ursus americanus</i> | Male | Graham | NW America W. of the Rockies, 53-58N | 296.44 | 4 | 279.61 | 5 | 6361 | 192450 | 12 |
| <i>Ursus americanus</i> | Female | Kuiu | NW America W. of the Rockies, 55-60N | 274.77 | 4 | 236.37 | 1 | 1933 | 91000 | 12 |
| <i>Ursus americanus</i> | Male | Kuiu | NW America W. of the Rockies, 55-60N | 274.76 | 7 | 280.94 | 9 | 1933 | 192450 | 12 |
| <i>Ursus americanus</i> | Female | Kupreanof | NW America W. of the Rockies, 55-60N | 260.46 | 4 | 236.37 | 1 | 2822 | 91000 | 12 |
| <i>Ursus americanus</i> | Male | Kupreanof | NW America W. of the Rockies, 55-60N | 279.01 | 5 | 280.94 | 9 | 2822 | 192450 | 12 |
| <i>Ursus americanus</i> | Male | Mitkof | NW America W. of the Rockies, 55-60N | 279.96 | 2 | 280.94 | 9 | 547 | 192450 | 12 |
| <i>Ursus americanus</i> | Male | Prince of Wales | NW America W. of the Rockies, 55-60N | 302.01 | 1 | 280.94 | 9 | 6675 | 192450 | 12 |
| <i>Ursus americanus</i> | Female | Vancouver Island | NW America W. of the Rockies, 47-55N | 248.40 | 3 | 253.09 | 2 | 33800 | 91000 | 12 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|---------------------------|--------|------------------|--------------------------------------|------------------|-----------|-------------------|------------|-------------------|---------------|-------------|
| <i>Ursus americanus</i> | Male | Vancouver Island | NW America W. of the Rockies, 47-55N | 271.96 | 6 | 268.88 | 3 | 33800 | 192450 | 12 |
| <i>Ursus arctos</i> | Female | Admiralty | NW America W. of the Rockies, 55-60N | 309.28 | 20 | 308.19 | 6 | 4310 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Admiralty | NW America W. of the Rockies, 55-60N | 348.88 | 38 | 353.05 | 2 | 4310 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Afognak | kodiak | 338.75 | 2 | 340.05 | 13 | 1809 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Afognak | kodiak | 376.51 | 3 | 393.42 | 9 | 1809 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Baranof | NW America W. of the Rockies, 55-60N | 321.66 | 5 | 308.19 | 6 | 4163 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Baranof | NW America W. of the Rockies, 55-60N | 328.72 | 4 | 353.05 | 2 | 4163 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Chichagof | NW America W. of the Rockies, 55-60N | 314.27 | 10 | 308.19 | 6 | 5449 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Chichagof | NW America W. of the Rockies, 55-60N | 354.12 | 12 | 353.05 | 2 | 5449 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Hinchinbrook | Alaska S. of 62N, 145-151W | 348.98 | 1 | 322.55 | 7 | 442 | 165500 | 3 |
| <i>Ursus arctos</i> | Female | Kodiak | Alaska S. of 61N, 150-160W | 340.05 | 13 | 337.73 | 21 | 9293 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Kodiak | Alaska S. of 61N, 150-160W | 393.42 | 9 | 388.63 | 19 | 9293 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Krestof | NW America W. of the Rockies, 55-60N | 296.88 | 1 | 308.19 | 6 | 28 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Kruzof | Baranof | 320.35 | 3 | 328.72 | 4 | 447 | 207500 | 12 |
| <i>Ursus arctos</i> | Female | Montague | NW America S. of 62N, 143-152W | 307.58 | 2 | 321.95 | 9 | 850 | 165500 | 3 |
| <i>Ursus arctos</i> | Male | Saint Lawrence | Alaska, 62-65N, W. of 158 | 337.70 | 1 | 340.88 | 1 | 5135 | 207500 | 12 |
| <i>Viverra zangalunga</i> | Male | Bangka | Borneo | 106.83 | 1 | 113.60 | 42 | 11330 | 3238 | 2 |
| <i>Viverra zangalunga</i> | Female | Bawal | Borneo | 112.24 | 1 | 110.50 | 23 | 49 | 3490 | 1 |
| <i>Viverra zangalunga</i> | Female | Billiton | Sumatra | 112.24 | 1 | 115.23 | 4 | 4833 | 3490 | 1 |
| <i>Viverra zangalunga</i> | Male | Billiton | Sumatra | 108.91 | 1 | 114.27 | 4 | 4833 | 3238 | 2 |
| <i>Viverra zangalunga</i> | Female | Bunguran | Borneo | 113.91 | 4 | 110.50 | 23 | 1485 | 3490 | 1 |
| <i>Viverra zangalunga</i> | Male | Bunguran | Borneo | 115.43 | 5 | 113.60 | 42 | 1485 | 3238 | 2 |
| <i>Viverra zangalunga</i> | Female | Laut | Borneo | 111.54 | 1 | 110.50 | 23 | 2057 | 3490 | 1 |

| Species | Sex | Island | Mainland | Insular CBL (mm) | Insular n | Mainland CBL (mm) | Mainland n | Island area (km2) | Body mass (g) | Mass source |
|---------------------------|------------|---------------|-----------------------------|-------------------------|------------------|--------------------------|-------------------|--------------------------|----------------------|--------------------|
| <i>Viverra zibetha</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 123.40 | 1 | 134.80 | 8 | 33940 | 8175 | 12 |
| <i>Viverra tangalunga</i> | Female | Lingga | Sumatra | 113.85 | 1 | 115.23 | 4 | 889 | 3490 | 1 |
| <i>Viverra tangalunga</i> | Female | Mindoro | Luzon | 111.81 | 1 | 110.07 | 2 | 9735 | 3490 | 1 |
| <i>Viverra tangalunga</i> | Female | Panebangan | Borneo | 111.42 | 1 | 110.50 | 23 | 26 | 3490 | 1 |
| <i>Viverra tangalunga</i> | Male | Pinang | Malay Peninsula | 125.03 | 1 | 118.79 | 2 | 295 | 3238 | 2 |
| <i>Viverra tangalunga</i> | Female | Rupat | Sumatra | 107.34 | 1 | 115.23 | 4 | 1490 | 3490 | 1 |
| <i>Viverra tangalunga</i> | Female | Samar | Luzon | 112.96 | 1 | 110.07 | 2 | 13429 | 3490 | 1 |
| <i>Viverra tangalunga</i> | Female | Karimata | Borneo | 112.53 | 1 | 110.50 | 23 | 158 | 3490 | 1 |
| <i>Viverricula indica</i> | Female | Bali | Java | 94.14 | 4 | 92.64 | 14 | 5620 | 2338 | 9 |
| <i>Viverricula indica</i> | Male | Bali | Java | 97.06 | 2 | 93.94 | 14 | 5620 | 2075 | 9 |
| <i>Viverricula indica</i> | Female | Hainan | Asia, 15-25N, E. of 105E | 94.33 | 8 | 100.80 | 13 | 33940 | 2338 | 9 |
| <i>Viverricula indica</i> | Male | Hainan | Asia, 15-25N, E. of 105E | 95.29 | 5 | 100.13 | 23 | 33940 | 2075 | 9 |
| <i>Viverricula indica</i> | Female | Pinang | Malay Peninsula | 96.95 | 1 | 94.62 | 2 | 295 | 2338 | 9 |
| <i>Viverricula indica</i> | Female | Taiwan | China S. of 30N, E. of 110E | 92.95 | 6 | 100.80 | 13 | 34507 | 2338 | 9 |
| <i>Viverricula indica</i> | Male | Taiwan | China S. of 30N, E. of 110E | 96.29 | 7 | 100.95 | 15 | 34507 | 2075 | 9 |
| <i>Vulpes vulpes</i> | Female | Corsica | Italy 40-44N | 124.16 | 1 | 134.00 | 1 | 8681 | 4900 | 9 |
| <i>Vulpes vulpes</i> | Male | Cyprus | Syria | 128.27 | 1 | 136.21 | 1 | 9250 | 5518 | 9 |
| <i>Vulpes vulpes</i> | Female | Flaherty | Quebec 55-60N, W. of 76W | 135.42 | 4 | 135.05 | 3 | 1585 | 4900 | 9 |
| <i>Vulpes vulpes</i> | Male | Grand Manan | Maine & New Brunswick | 134.05 | 1 | 135.25 | 12 | 137 | 5518 | 9 |
| <i>Vulpes vulpes</i> | Female | Kodiak | Alaska S. of 61N, 150-160W | 131.94 | 1 | 140.64 | 3 | 9293 | 4900 | 9 |
| <i>Vulpes vulpes</i> | Male | Kodiak | Alaska S. of 61N, 150-160W | 148.30 | 2 | 143.84 | 4 | 9293 | 5518 | 9 |
| <i>Vulpes vulpes</i> | Female | Kyushu | Honshu | 134.81 | 1 | 138.82 | 5 | 36719 | 4900 | 9 |
| <i>Vulpes vulpes</i> | Male | Kyushu | Honshu | 135.29 | 1 | 145.66 | 2 | 36719 | 5518 | 9 |
| <i>Vulpes vulpes</i> | Male | Sardinia | Italy S. of 43N | 127.50 | 3 | 127.77 | 2 | 23833 | 5518 | 9 |
| <i>Vulpes vulpes</i> | Female | Tukarak | Quebec 55-60N, W. of 76W | 142.11 | 4 | 135.05 | 3 | 349 | 4900 | 9 |
| <i>Vulpes vulpes</i> | Female | Unimak | Alaska Peninsula | 139.32 | 1 | 140.64 | 3 | 4119 | 4900 | 9 |

Body mass data are from: Colon 2002 (1), Davis 1962 (2), Ferguson and McLoughlin 2000 (3), Grassman et al. 2005 (4), Harris 1968 (5), Johnson et al. 2000 (6), Lariviere 1999 (7), Macdonald and Sillero-Zubiri 2004 (8), Meiri, unpublished data (9), Nowak 1999 (10), Rozhnov 1994 (11), Silva and Downing 1995 (12), Sunquist and Sunquist 2002 (13), Van Rompaey 2001 (14), Verts et al. 2001 (15), and Voss et al. 2001 (16).

Data are for males and females separately, unless sex specific mass is unavailable, in which case mass is for unsexed animals.

Island area data are from Meiri et al. (2005a, b).

References:

- Colon, C. P. 2002. Ranging behaviour and activity of the Malay civet (*Viverra zibethica*) in a logged and an unlogged forest in Danum Valley, East Malaysia. *Journal of Zoology* **257**: 473-485.
- Davis, D. D., 1962. Mammals of the lowland rain-forest of North Borneo. *Bulletin of the National Museum of Singapore* **31**: 1-129.
- Ferguson, S. H. and McLoughlin, P. D. 2000. Effect of energy availability, seasonality, and geographic range on brown bear life history. *Ecography* **23**: 193-200.

- Grassman, L. I., Tewes, M. E., Silvy, N. J. and Kreetiyutanont, K. 2005. Spatial organization and diet of the leopard cat (*Prionailurus bengalensis*) in north-central Thailand. *Journal of Zoology* **266**: 45-54.
- Harris, C. J. 1968. *Otters*. Widenfeld & Nicolson. London.
- Johnson, D. D. P., Macdonald, D. W. and Dickman, A. J. 2000. An analysis and review of the sociobiology of the Mustelidae. *Mammal Review* **30**: 171-196.
- Lariviere, S. 1999. *Lontra provocax*. *Mammalian Species* **610**: 1-4.
- Macdonald, D. W. and Sillero-Zubiri, C. (editors). 2004. *The biology and conservation of wild canids*. Oxford University Press, Oxford.
- Nowak, R. M. 1999. Walker's "*Mammals of the world*". 6th edition. Johns Hopkins University Press, Baltimore.
- Rozhnov, V. V. 1994. Notes on the behaviour and ecology of the Binturong (*Arctictis binturong*) in Vietnam. *Small Carnivore Conservation* **10**: 4-5.
- Silva, M. and Downing, J. A. 1995. *CRC handbook of Mammalian body masses*. CRC Press. New York.
- Sunquist, M. and Sunquist, F. 2002. *Wild cats of the world*. University of Chicago Press, Chicago.
- Van Rompaey, H. 2001. The crab-eating Mongoose, *Herpestes urva*. *Small Carnivore Conservation* **25**: 12-17.
- Verts, B. J., Carraway, L. N., and Kinlaw, A. 2001. *Spilogale gracilis*. *Mammalian Species* **674**: 1-10.

Voss, R. S., Lunde, D. P. and Simmons, N. B. 2001. The mammals of Paracou, French Guiana: a Neotropical lowland rainforest fauna Part 2.

Non-volant mammals. *Bulletin of the American Museum of Natural History* **263**: 1-236.