doi: 10.1111/oik.05488

Appendix 1

References and carnivore species dataset
References dataset


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**Carnivore species dataset**

Acinonyx jubatus (cheetah)
Alopex lagopus (arctic fox)
Atilax paludinosus (water mongoose)
Canis aureus (golden/Asian jackal)
Canis latrans (coyote)
Canis lupus (gray wolf)
Canis lupus dingo (dingo)
Canis mesomelas (black-backed jackal)
Canis rufus (red wolf)
Canis simensis (Ethiopian wolf or simien jackal)
Chrysocyon brachyurus (maned wolf)
Crocuta crocuta (spotted hyena)
Cryptoprocta ferox (fossa)
Cuon alpinus (dhole)
Felis canadensis (Canadian lynx)
Felis catus (feral cat)
Felis chaus (jungle cat)
Felis lynx (Eurasian lynx)
Felis nigripes (black-footed cat)
Felis rufus (bobcat)
Felis sylvestris (African wild cat)
Felis/Caracal caracal (caracal)
Felis/Catopuma temmincki (Asian golden cat)
Felis/Leopardus colocolo (Pampas cat)
Felis/Leopardus geoffroyi (Geoffroy's cat)
Felis/Leopardus pardalis (ocelot)
Felis/Leopardus tigrina (little spotted cat)
Felis/Leopardus wiedii (margay)
Felis/Lynx pardina/pardinus (Spanish/Iberian lynx)
Felis/Otocolobus manul (Pallas’s cat)
Felis/Prionailurus iriomotensis (iriomote cat)
Galictis cuja (lesser grison)
Galidictis grandidi (Malagasy broad-striped mongoose)
Genetta genetta (common genet)
Gulo gulo (wolverine)
Herpestes auropunctatus/javanicus (small Indian/Asian mongoose)
Herpestes ichneumon (Egyptian mongoose)
Herpestes naso (long nosed mongoose)
Herpestes urva (crab-eating mongoose)
Lycalopex/ Pseudalopex culpaeus (culpeo fox)
Lycalopex/Dusicyon vetulus (hoary fox)
Lycalopex/Pseudalopex griseus (grey fox)
Lycaon pictus (African wild dog)
Martes americana (American marten)
Martes flavigula (yellow throated marten)
Martes foina (beech or stone marten)
Martes martes (European pine marten)
Mellivora capensis (honey badger, ratel)
Mustela erminea (ermine, stoat)
Mustela eversmanni (steppe polecat)
Mustela lutreola (European mink)
Mustela nivalis (least weasel)
Mustela putorius (European polecat)
Mustela vison (American mink)
Paguma larvata (Himalayan palm civet)
Panthera leo (lion)
Panthera onca (jaguar)
Panthera pardus (leopard)
Panthera tigris (tiger)
Panthera uncia (snow leopard)
Prionailurus/Felis bengalensis (leopard cat)
Pseudalopex/Lycalopex fulvipes (Darwin's fox)
Puma/Felis concolor (puma)
Puma/Felis yagouaroundi (jaguarundi)
Speothos venaticus (bush dog)
Taxidea taxus (American badger)
Ursus maritimus (polar bear)
Viverra civetta (African civet)
Viverra tangalunga (Malay Civet)
Viverricula indica (lesser oriental civet)
Vulpes bengalensis (Indian fox/Bengal fox)
Vulpes chama (cape fox)
Vulpes corsac (Corsac fox)
Vulpes ferrilata (Tibetan sand fox)
Vulpes macrotis (kit fox)
Vulpes rueppellii (sand fox)
Vulpes velox (swift fox)
Vulpes vulpes (red fox)
Appendix 2

Predator size and prey size-gut capacity ratios determine kill frequency and carcass production in terrestrial carnivorous mammals

In- and exclusion criteria for data acquisition
Detailed information on data acquisition

Although there is evidence that frequency of occurrence is not an ideal measure to determine the major prey species of a predator (Klare et al. 2012, but see for example Corbett 1989), we aimed to compile a broad dataset covering a maximum of predator species, and therefore accepted publications based on the frequency of occurrence.

Predator and prey mass (kg) (female and male average or range average) ($M_{\text{pred}}$, $M_{\text{prey}}$) were obtained from publications itself when authors were able to give typical carnivore and/or prey masses from the study area. Other carnivore and prey masses were mainly obtained from Nowak's Walker's Mammals of the world (Nowak 1999), the panTHERIA database (Jones et al. 2009) and the internet as a last reference (sources in Appendix 1 and the Dryad Digital Repository). Other small dietary items were estimated at 0.001 kg for insects, 0.005 kg for aquatic invertebrates, 0.1 kg for small unidentified rodents and birds (Carbone et al. 1999). If studies expressed the most frequent prey as a group, class or order (e.g. small mammals, rodents), the average mass of that group (when given by publication) or all species included in that group was taken as mass of the most frequent prey. Whenever studies reported juveniles of a prey species as being the most frequent prey, juvenile prey mass given by the authors was used. If no juvenile prey mass was available, juvenile mass found in Nowak's Walker's mammals (Nowak 1999) were used, or since ungulates typically weigh ca. 10% of the maternal prey mass at birth (Blueweiss et al. 1978), this was taken as representative for juvenile prey mass.

If the most frequent prey was confirmed to be carrion, the datapoint was omitted. We acknowledge that carrion consumption can influence kill frequency. However, data on species composition of consumed carrion is much rarer than data on prey taken alive. Additionally, carrion cannot be incorporated easily in a modelling approach such as ours (or previous concepts that model kill frequency), because one cannot know how much carrion was available.
initially, i.e. what proportion of the body mass of the prey is on average available to the scavenging carnivore species, and how this proportion relates to gut capacity.

Whenever a study had two most frequent prey species that showed identical frequencies of occurrence, both were included in the database. If the study did not report frequency or relative frequency of occurrence to point out the most frequent prey of a predator (e.g. indexes, consumed biomass, % of dry matter of scats) and/or FO and rFO could not be calculated from measures presented (e.g. from consumed biomass), the study was excluded.

Per carnivore species, publications were generally limited to 10 (or less if no more than 10 were available) and added to the database, with a focus on reviews and more recent literature. Although an evaluation of a primary version of the dataset indicated that adding more than 10 publications to species for which more were available did not change the result visibly, this cutoff is arbitrary, and was introduced to achieve a somewhat comparable database for all species, and to limit the effort of literature research to a scope manageable in this project.

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