**Appendix 1**: Data values for temperature (Temp.; oC), red blood cell volume (RBC; ml/100 g BM), body mass (BM; g) and relative

heart mass (Heart; % body mass) used in analyses. Sources of data are listed in brackets.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Class** | **Order** | **Family** | **Species** | **Temp.** |  |  | **RBC** | **BM** |  |  | **Heart** |  |
| Aves | [Strigiformes](http://en.wikipedia.org/wiki/Owl) | Strigidae | *Bubo virginianus* | 40.8 | [1] |  | 3 | 1495 | [2] |  | 0.49 | [3] |
| Aves | [Falconiformes](http://en.wikipedia.org/wiki/Falconiformes) | [Accipitridae](http://en.wikipedia.org/wiki/Accipitridae) | *Buteo jamaicensis* | 40.6 | [1] |  | 2.7 | 925 | [2] |  | 0.55 | [3] |
| Aves | Columbiformes | Columbidae | *Columba livia* | 40.8 | [4] |  | 4.8 | 310 | [2] |  | 1 | [5] |
| Aves | Galliformes | [Phasianidae](http://en.wikipedia.org/wiki/Phasianidae) | *Coturnix japonica* | 41.5 | [1] |  | 4.3 | 111 | [6] |  | 0.88 | [5] |
| Aves | [Gruiformes](http://en.wikipedia.org/wiki/Gruiformes) | Rallidae | *Fulica americana* | 40.9 | [1] |  | 4.4 | 550 | [2] |  | 0.67 | [3] |
| Aves | [Charadriiformes](http://en.wikipedia.org/wiki/Charadriiformes) | Laridae | *Larus ridibundus* | 41.2 | [1] |  | 6.15 | 215 | [7] |  | 0.95 | [7] |
| Aves | [Passeriformes](http://en.wikipedia.org/wiki/Passeriformes) | Sturnidae | *Sturnus vulgaris* | 41.5 | [1] |  | 6.78 | 67 | [8] |  | 1.32 | [5] |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mammalia | Artiodactyla | Bovidae | *Bos taurus* | 38.4 | [1] |  | 2.17 | 348000 | [9] |  | 0.35 | [10] |
| Mammalia | Pilosa | [Bradypodidae](http://en.wikipedia.org/wiki/Bradypodidae) | *Bradypus tridactylus* | 32.6 | [11] |  | 1.95 | 4133 | [12] |  | 0.25 | [11] |
| Mammalia | Artiodactyla | Camelidae | *Camelus dromedarius* | 37.2 | [1] |  | 2.4 | 800000 | [13] |  |  |  |
| Mammalia | Artiodactyla | Bovidae | *Capra hircus* | 39.5 | [1] |  | 2.04 | 40500 | [14] |  | 0.5 | [15] |
| Mammalia | Rodentia | Caviidae | *Cavia porcellus* | 39 | [1] |  | 3.23 | 500 | [16] |  |  |  |
| Mammalia | [Perissodactyla](http://en.wikipedia.org/wiki/Odd-toed_ungulate) | Equidae | *Equus caballus* | 37.6 | [1] |  | 2.85 | 415000 | [17] |  | 0.82 | [10] |
| Mammalia | Rodentia | Cricetidae | *Mesocricetus auratus* | 38.1 | [1] |  | 2.72 | 94 | [18] |  | 0.92 | [5] |
| Mammalia | Rodentia | Muridae | *Mus musculus* | 36.5 | [1] |  | 3.16 | 24 | [19] |  |  |  |
| Mammalia | Lagomorpha | [Leporidae](http://en.wikipedia.org/wiki/Leporidae) | *Oryctolagus cuniculus* | 39 | [1] |  | 2.56 | 3900 | [20] |  | 0.29 | [10] |
| Mammalia | Artiodactyla | Cervidae | *Rangifer tarandus* | 39.2 | [1] |  | 3.46 | 90300 | [21] |  | 0.71 | [5] |
| Mammalia | Rodentia | Muridae | *Rattus norvegicus* | 37.2 | [1] |  | 2.24 | 222 | [22] |  | 0.55 | [23] |
| Mammalia | Diprotodontia | [Macropodidae](http://en.wikipedia.org/wiki/Macropodidae) | *Setonix brachyurus* | 36.3 | [1] |  | 2.47 | 3250 | [24] |  |  |  |
| Mammalia | [Diprotodontia](http://en.wikipedia.org/wiki/Diprotodontia) | [Phalangeridae](http://en.wikipedia.org/wiki/Phalangeridae) | *Trichosurus vulpecula* | 36 | [1] |  | 2.62 | 2020 | [25] |  | 0.37 | [26] |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reptilia | [Crocodylia](http://en.wikipedia.org/wiki/Crocodylia) | [Alligatoridae](http://en.wikipedia.org/wiki/Alligatoridae) | *Alligator mississippiensis* | 29.9 | [27] |  | 1.4 | 2304 | [28] |  | 0.15 | [29] |
| Reptilia | Squamata | Agamidae | *Amphibolurus caudicinctus* | 36 | [30] |  | 3.1 | 23 | [31] |  |  |  |
| Reptilia | Squamata | Agamidae | *Amphibolurus inermis* | 36 | [30] |  | 3.7 | 24 | [31] |  |  |  |
| Reptilia | Squamata | Agamidae | *Amphibolurus ornatus* | 36 | [30] |  | 2.2 | 23 | [31] |  |  |  |
| Reptilia | Squamata | [Boidae](http://en.wikipedia.org/wiki/Boidae) | *Boa constrictor* | 30.7 | [32] |  | 1.9 | 1715 | [28] |  | 0.21 | [5] |
| Reptilia | [Crocodylia](http://en.wikipedia.org/wiki/Crocodylia) | [Crocodylidae](http://en.wikipedia.org/wiki/Crocodylidae) | *Crocodylus moreleti* | 31.5 | [33] |  | 1.4 | 2058 | [28] |  |  |  |
| Reptilia | [Crocodylia](http://en.wikipedia.org/wiki/Crocodylia) | [Crocodylidae](http://en.wikipedia.org/wiki/Crocodylidae) | *Crocodylus niloticus* | 31.5 | [33] |  | 1.3 | 3500 | [28] |  | 0.12 | [5] |
| Reptilia | Squamata | Viperidae | *Crotalus viridis* | 28.9 | [34] |  | 1.38 | 372 | [35] |  | 0.25 | [36] |
| Reptilia | Squamata | Colubridae | *Elaphe obsoleta* | 27.8 | [30] |  | 1.56 | 541 | [35] |  | 0.17 | [36] |
| Reptilia | Testudines | Testudinidae | *Gopherus polyphemus* | 34.5 | [34] |  | 1.9 | 4114 | [28] |  |  |  |
| Reptilia | Squamata | Iguanidae | *Iguana iguana* | 28.1 | [37] |  | 1.8 | 465 | [28] |  | 0.19 | [38] |
| Reptilia | Squamata | [Elapidae](http://en.wikipedia.org/wiki/Elapidae) | *Laticauda colubrina* | 29 | [39] |  | 1.93 | 417 | [40] |  |  |  |
| Reptilia | Squamata | Colubridae | *Pituophis catenifer* | 26.7 | [34] |  | 1.9 | 672 | [28] |  |  |  |
| Reptilia | Squamata | Iguanidae | *Sauromalus obesus* | 37.9 | [34] |  | 2.85 | 200 | [41] |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Amphibia | Anura | Bufonidae | *Bufo marinus* | 25.2 | [42] |  | 1.93 | 200 | [43] |  | 0.6 | [5] |
| Amphibia | Anura | Bufonidae | *Bufo melanostictus* | 32 | [44] |  | 2.9 | 55 | [45] |  |  |  |
| Amphibia | Anura | Hylidae | *Hyla septentrionalis* | 24.7 | [46] |  | 1.7 | 32 | [46] |  |  |  |
| Amphibia | Anura | Ranidae | *Lithobates catesbeiana* | 25 | [42] |  | 1.35 | 344 | [47] |  | 0.23 | [5] |
| Amphibia | Anura | Ranidae | *Rana esculenta* | 28 | [48] |  | 2.06 | 20 | [49] |  | 0.28 | [5] |
| Amphibia | Anura | Ranidae | *Rana pipiens* | 24.4 | [42] |  | 1.84 | 50 | [50] |  | 0.33 | [51] |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Acipenseriformes](http://en.wikipedia.org/wiki/Acipenseriformes) | [Acipenseridae](http://en.wikipedia.org/wiki/Acipenseridae) | *Acipenser fulvescens* | 16 | [52] |  | 0.9 | 3058 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Amiiformes](http://en.wikipedia.org/wiki/Amiiformes) | Amiidae | *Amia calva* | 30.5 | [54] |  | 1.2 | 1963 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Anguilliformes](http://en.wikipedia.org/wiki/Anguilliformes) | Anguillidae | *Anguilla japonica* | 18 | [55] |  | 1.04 | 199 | [55] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Semionotiformes](http://en.wikipedia.org/wiki/Semionotiformes) | [Lepisosteidae](http://en.wikipedia.org/wiki/Lepisosteidae) | *Atractosteus tristoechus* | 20 | [56] |  | 1 | 1628 | [56] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Cypriniformes](http://en.wikipedia.org/wiki/Cypriniformes) | [Catostomidae](http://en.wikipedia.org/wiki/Catostomidae) | *Catostomus commersoni* | 24 | [57] |  | 1 | 617 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Cypriniformes](http://en.wikipedia.org/wiki/Cypriniformes) | [Cyprinidae](http://en.wikipedia.org/wiki/Cyprinidae) | *Cyprinus carpio* | 25 | [58] |  | 1.44 | 529 | [58] |  | 0.16 | [59] |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Serranidae](http://en.wikipedia.org/wiki/Serranidae) | *Epinephelus striatus* | 25 | [60] |  | 0.8 | 1270 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Gadiformes](http://en.wikipedia.org/wiki/Gadiformes) | [Gadidae](http://en.wikipedia.org/wiki/Gadidae) | *Gadus morhua* | 7 | [61] |  | 0.6 | 4200 | [61] |  | 0.12 | [62] |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Cypriniformes](http://en.wikipedia.org/wiki/Cypriniformes) | [Catostomidae](http://en.wikipedia.org/wiki/Catostomidae) | *Ictiobus cyprinellus* | 22 | [63] |  | 0.9 | 3395 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Lutjanidae](http://en.wikipedia.org/wiki/Lutjanidae) | *Lutjanus campechanus* | 21.7 | [64] |  | 0.9 | 3765 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Lutjanidae](http://en.wikipedia.org/wiki/Lutjanidae) | *Lutjanus griseus* | 21.7 | [64] |  | 0.7 | 3711 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Serranidae](http://en.wikipedia.org/wiki/Serranidae) | *Mycteroperca tigris* | 28 | [65] |  | 1 | 5885 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Salmoniformes](http://en.wikipedia.org/wiki/Salmoniformes) | Salmonidae | *Oncorhynchus mykiss* | 16 | [66] |  | 0.67 | 815 | [66] |  | 0.11 | [67] |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | Sparidae | *Pagrus major* | 19.5 | [58] |  | 1.27 | 519 | [58] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Acipenseriformes](http://en.wikipedia.org/wiki/Acipenseriformes) | [Polyodontidae](http://en.wikipedia.org/wiki/Paddlefish) | *Polyodon spathula* | 22 | [68] |  | 0.8 | 4679 | [53] |  | 0.13 | [69] |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | Scaridae | *Pseudoscarus guacamaia* | 28 | [65] |  | 1.2 | 4607 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Carangidae](http://en.wikipedia.org/wiki/Carangidae) | *Seriola quinqueradiata* | 21.4 | [58] |  | 1.23 | 873 | [58] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Carangidae](http://en.wikipedia.org/wiki/Carangidae) | *Seriola quinqueradiata* | 23.7 | [70] |  | 1.2 | 433 | [70] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Sphyraenidae](http://en.wikipedia.org/wiki/Sphyraenidae) | *Sphyraena barracuda* | 24.4 | [71] |  | 0.9 | 2204 | [53] |  |  |  |
| [Actinopterygii](http://en.wikipedia.org/wiki/Actinopterygii) | [Perciformes](http://en.wikipedia.org/wiki/Perciformes) | [Scombridae](http://en.wikipedia.org/wiki/Scombridae) | *Thunnus albacares* | 25 | [72] |  | 1.38 | 1410 | [73] |  | 0.29 | [72] |