

Dataset S1: Body mass estimates in grams for all mammal species included in this study. Also included is the source of this measurement. PBDB = Paleobiology Database, NOW = Neogene Old World Database, EOL = Encyclopedia of Life, ADW = Animal Diversity Web. PBDB + regression indicates that body mass was estimated from a measurement on the PBDB using one of the many regression equations listed in Table S3.

Species	Mass (g)	Source
Aaptoryctes ivyi	215.70	PBDB + regression
Absarokius abbotti	176.39	PBDB + regression
Absarokius metoecus	166.29	PBDB + regression
Acarictis ryani	291.90	PBDB + regression
Achaenodon robustus	492900.83	PBDB + regression
Achlyoscapter longirostris	11.94	(1)
Acmeodon secans	325.36	PBDB + regression
Acritohippus isonesus	135944.23	(1)
Acritohippus quinni	178082.11	(1)
Acritoparamys atwateri	190.07	PBDB + regression
Acritoparamys francesi	125.17	PBDB + regression
Acritoparamys pattersoni	432.28	PBDB
Acritoparamys wyomingensis	274.75	PBDB
Adeloblarina berklandi	12.68	(1)
Adelphailurus kansensis	33189.87	(1)
Adilophontes brachykolos	119372.01	(1)
Adjidaumo burkei	4.91	PBDB
Adjidaumo craigi	7.29	PBDB + regression
Adjidaumo intermedius	10.39	PBDB + regression
Adjidaumo maximus	20.14	PBDB + regression
Adjidaumo minimus	7.29	PBDB + regression
Adjidaumo minutus	15.90	PBDB + regression
Adunator ladae	17.36	PBDB + regression
Aelurodon asthenostylus	22026.47	(1)
Aelurodon ferox	26370.47	(1)
Aelurodon mcgrewi	22247.84	(1)
Aelurodon montanensis	27722.51	(1)
Aelurodon stirtoni	20537.34	(1)
Aelurodon taxoides	29436.77	(1)
Aepinacodon americanus	423622.49	(2)
Aepycamelus bradyi	516464.33	(3)
Aepycamelus giraffinus	499050.27	PBDB
Aepycamelus robustus	420836.64	(1)
Aepycamelus stocki	348014.70	(1)
Aethomylos simplicidens	30.03	PBDB + regression
Ageitodendron matthewi	331.60	PBDB + regression
Agriochoerus antiquus	56387.34	(1)
Agriochoerus guyotianus	59000.00	(4)
Agriotherium schneideri	355045.06	(1)
Alagomys russelli	4.67	PBDB + regression
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Species	Mass (g)	Source
Aletodon conardae	576.81	PBDB + regression
Aletodon gunnelli	615.51	PBDB + regression
Aletodon quadravus	365.67	PBDB + regression
Aletomeryx gracilis	27173.57	(1)
Alforjas taylori	408399.03	(1)
Alilepus vagus	225.12	PBDB + regression
Alilepus wilsoni	111.45	PBDB + regression
Allomys cristabrevis	239.72	PBDB + regression
Allomys simplicidens	122.00	(4)
Allomys storeri	92.85	PBDB + regression
Alluvisorex arcadentes	5.70	(1)
Alphagaulus pristinus	521.00	(4)
Alphagaulus vetus	523.22	(1)
Alticonus gazini	1140.52	PBDB + regression
Alveojunctus minutus	25.80	PBDB + regression
Alveugena carbonensis	815.39	PBDB
Alwoodia harkseni	294.29	PBDB + regression
Alwoodia magna	226.00	(4)
Amebelodon floridanus	37020787.90	PBDB + regression
Amelotabes simpsoni	57.16	PBDB + regression
Ammospermophilus hanfordi	58.00	(4)
Ammospermophilus juturensis	53.52	(1)
Amphichinus horncloudi	175.91	(1)
Amphicaenopus platycephalus	2397650.84	(1)
Amphicyon frendens	245241.81	(1)
Amphicyon galushai	138690.48	(1)
Amphicyon ingens	600000.00	(5)
Amphicyon longiramus	113550.16	(1)
Amphicyon riggsi	418398.16	PBDB
Amphimachairodus coloradensis	157147.46	PBDB + regression
Ampliconus antoni	2906.21	PBDB + regression
Amynodon advenus	1987010.17	PBDB + regression
Amynodon reedi	579004.85	PBDB
Amynodontopsis bodei	608129.44	PBDB + regression
Anaptomorphus aemulus	95.39	PBDB + regression
Anaptomorphus westi	186.75	PBDB + regression
Anasazia williamsoni	186.23	(6)
Anchitherium clarencei	230960.04	(1)
Anconodon cochranensis	57.00	(7)
Anemorhysis natronensis	32.59	PBDB + regression
Anemorhysis pattersoni	57.16	PBDB + regression
Anemorhysis pearcei	32.00	(8)
Anemorhysis wortmani	42.74	PBDB + regression
Angustidens vireti	18.17	(1)
Anisonchus oligistus	388.07	PBDB + regression
Anisonchus onostus	616.78	PBDB + regression
Anisonchus sectorius	1619.16	PBDB + regression
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Species	Mass (g)	Source
Ankalagon saurognathus	28250.27	PBDB + regression
Ankyledon annectens	30.27	(1)
Anomoemys lewisi	207.64	(9)
Ansomys hepburnensis	44.70	(1)
Ansomys nevadensis	51.94	(1)
Ansomys nexodens	92.85	PBDB + regression
Antecalomys phthanus	22.87	(1)
Antecalomys valensis	13.60	(1)
Antecalomys vasquezi	10.70	PBDB
Antiacodon pygmaeus	464.26	PBDB + regression
Antiacodon venustus	2156.43	PBDB + regression
Apataelurus kayi	10833.16	PBDB + regression
Apatemys bellulus	17.36	PBDB + regression
Apatemys bellus	21.80	PBDB + regression
Apatemys chardini	14.63	PBDB + regression
Apatemys downsi	65.02	PBDB + regression
Apatemys hendryi	12.08	PBDB + regression
Apatemys uintensis	28.30	PBDB + regression
Apatosciuravus bifax	35.35	PBDB + regression
Apatosciuravus jacobsi	29.87	PBDB + regression
Apheliscus chydaeus	47.27	PBDB + regression
Apheliscus insidiosus	60.38	PBDB + regression
Apheliscus nitidus	77.18	PBDB + regression
Apheliscus wapitiensis	26.62	PBDB + regression
Aphelops malacorhinus	3541284.24	(1)
Aphelops megalodus	1689595.99	(1)
Aphelops mutilus	4325334.34	(1)
Aphronorus fraudator	112.44	PBDB + regression
Aphronorus orieli	427.05	PBDB + regression
Aphronorus ratatoski	176.14	PBDB + regression
Apletotomeus crassus	8.78	PBDB + regression
Apternodus gregoryi	90.14	PBDB + regression
Apternodus iliffensis	87.48	PBDB + regression
Arapahovius advena	42.74	PBDB + regression
Archaeocyon falkenbachii	2116.88	(10)
Archaeocyon leptodus	3533.34	(1)
Archaeocyon pavidus	2275.60	(1)
Archaeohippus blackbergi	33189.87	(1)
Archaeohippus mannulus	48917.80	PBDB + regression
Archaeohippus mourningi	54176.36	(1)
Archaeohippus penultimus	71682.36	(1)
Archaeohippus stenolophus	63678.98	PBDB
Archaeolagus acaricolus	578.25	(1)
Archaeolagus emeraldensis	2344.90	(1)
Archaeolagus ennisianus	1064.22	(1)
Archaeolagus macrocephalus	1826.21	(1)
Archaeolagus primigenius	1540.71	(1)
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Species	Mass (g)	Source
Archaeotherium lemleyi	1361176.27	PBDB + regression
Archaeotherium mortoni	240808.54	PBDB + regression
Archaeotherium trippensis	3353590.86	PBDB + regression
Arctocyon montanensis	14771.98	PBDB + regression
Arctocyon mumak	57080.05	PBDB
Arctodontomys nuptus	318.11	PBDB + regression
Arctodontomys simplicidens	219.44	PBDB + regression
Arctodontomys wilsoni	236.68	PBDB + regression
Arctodus pristinus	299916.25	(11)
Arctonasua eurybates	15994.50	(1)
Arctonasua gracilis	8866.19	(1)
Arctonasua minima	7044.48	(1)
Arctostylops steini	512.92	PBDB + regression
Ardynomys occidentalis	202.01	PBDB + regression
Arfia junnei	1188.60	PBDB + regression
Arfia opisthotoma	11400.50	PBDB + regression
Arfia shoshoniensis	9550.20	PBDB + regression
Arfia zeke	2236.53	PBDB + regression
Arretotherium acridens	179871.86	(1)
Arretotherium fricki	138690.48	(1)
Arretotherium leptodus	252848.32	PBDB
Artimonius australis	133.09	PBDB + regression
Artimonius nocerae	66.71	PBDB + regression
Artimonius witteri	91.55	PBDB + regression
Astrohippus stockii	134877.06	PBDB
Aulolithomys bounites	68.53	PBDB + regression
Aulolithomys vexillaries	17.97	PBDB + regression
Australocamelus orarius	100709.96	(1)
Auxontodon pattersoni	6261.76	PBDB + regression
Avunculus didelphodonti	60.38	PBDB + regression
Aycrossia lovei	124.23	PBDB + regression
Aztlanolagus agilis	1999.86	(11)
Azygonyx ancylion	15969.85	PBDB + regression
Azygonyx grangeri	24602.41	PBDB + regression
Azygonyx xenicus	7316.20	PBDB + regression
Baioconodon denverensis	4195.64	PBDB + regression
Baioconodon nordicus	1675.41	PBDB + regression
Baiomys rexroadii	7.29	PBDB + regression
Baiotomeus douglassi	192.03	PBDB + regression
Baiotomeus rhotonion	12.82	PBDB + regression
Barbourofelis fricki	255250.32	(1)
Barbourofelis loveorum	160091.76	PBDB + regression
Barbourofelis morrisoni	90219.42	(1)
Barbourofelis osborni	162309.29	(12)
Barbourofelis whitfordi	77652.58	(1)
Barbourofelis trigonocorneus	33860.35	(1)
Barylambda faberi	255787.00	PBDB + regression
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Species	Mass (g)	Source
Barylambda jackwilsoni	43914.63	PBDB + regression
Basirepomys pliogenicus	72.36	PBDB + regression
Basirepomys robertsi	54.13	PBDB + regression
Bassariscus antiquus	1881.83	(1)
Bassariscus casei	1652.43	(1)
Bassariscus minimus	1183.06	(13)
Bassariscus ogallalae	1724.26	(14)
Bassariscus parvus	1685.81	(1)
Bathygenys alpha	6155.81	PBDB + regression
Bathygenys reevesi	5297.18	PBDB + regression
Batodonoides powayensis	3.14	PBDB + regression
Batodonoides vanhouteni	1.26	PBDB + regression
Beckiasorex hibbardi	6.56	PBDB + regression
Bensonomys arizonae	23.19	PBDB
Bensonomys baskini	26.95	PBDB
Bensonomys elachys	8.78	(15)
Bensonomys gidleyi	13.90	PBDB
Bensonomys lindsayi	8.78	PBDB + regression
Bensonomys meadensis	19.00	PBDB
Bensonomys winklerorum	9.09	PBDB
Bensonomys yazhi	9.98	(16)
Betonnia tsosia	50.22	(17)
Bisonalveus browni	90.14	PBDB + regression
Bisonalveus holtzmani	146.12	PBDB + regression
Blacktops latidens	344.57	PBDB
Blacktops longinares	255.48	PBDB
Blarina brevicauda	16.40	PBDB
Blarina carolinensis	13.49	(11)
Blastomeryx gemmifer	10938.02	(1)
Blastomeryx pristinus	38955.58	PBDB
Blickomylus galushai	16983.54	(1)
Boreameryx braskerudi	9643.88	PBDB + regression
Borophagus diversidens	34891.55	(1)
Borophagus dudleyi	94433.22	(18)
Borophagus hilli	29143.87	(1)
Borophagus littoralis	23388.51	(1)
Borophagus orc	16814.55	(1)
Borophagus parvus	19341.34	(1)
Borophagus pugnator	24100.79	(1)
Borophagus secundus	24100.79	(1)
Bothriodon rostratus	865704.50	(19)
Bouromeryx americanus	68186.37	(1)
Bouromeryx submilleri	50011.09	(1)
Brachycrus buwaldi	250196.03	(1)
Brachycrus laticeps	359952.66	PBDB
Brachycrus rusticus	117343.54	PBDB
Brachycrus siouense	145801.30	(1)

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Species	Mass (g)	Source
Brachyerix hibbardii	78.19	(20)
Brachyerix incertis	79.84	(1)
Brachyerix macrotis	131.63	(1)
Brachyerix richi	340.36	(1)
Brachyhyops viensis	202519.16	PBDB + regression
Brachyhyops wyomingensis	97111.99	PBDB + regression
Brachypsalis modicus	512.86	(1)
Brachypsalis obliquidens	63169.09	PBDB
Brachypsalis pachycephalus	487.85	(1)
Brachyrhynchocyon dodgei	13906.88	PBDB + regression
Brachyrhynchocyon montanus	7397.01	PBDB + regression
Brontops tyleri	571500.00	PBDB
Buisnictis breviramus	849.04	PBDB + regression
Buisnictis burrowsi	817.07	PBDB
Buisnictis schoffi	22.42	(1)
Bunomeryx montanus	3196.73	PBDB + regression
Bunophorus etsagicus	13323.34	PBDB + regression
Bunophorus grangeri	13969.78	PBDB + regression
Bunophorus macropternus	10378.10	PBDB + regression
Bunophorus pattersoni	6332.74	(21)
Bunophorus robustus	5163.91	PBDB + regression
Bunophorus sinclairei	16312.82	PBDB + regression
Caenolambda jepseni	40906.63	PBDB + regression
Calippus cerasinus	81633.91	(1)
Calippus elachistus	43044.94	(1)
Calippus hondurensis	71682.36	(1)
Calippus martini	119372.01	(1)
Calippus placidus	79221.26	(1)
Calippus proplacidus	64860.88	(1)
Calippus regulus	45251.90	(1)
Camelops hesternus	1099005.84	(11)
Camelops traviswhitei	1027000.94	PBDB + regression
Campestrallomys annectens	80.29	PBDB + regression
Campestrallomys dawsonae	298.87	(1)
Campestrallomys siouxensis	159.17	(1)
Canis armbrusteri	30333.26	(1)
Canis edwardii	79873.95	PBDB + regression
Canis latrans	11765.00	PBDB
Canis lepophagus	14617.87	(1)
Canis rufus	15566.00	PBDB
Cantius abditus	2798.04	PBDB + regression
Cantius angulatus	417.80	PBDB + regression
Cantius frugivorus	913.71	PBDB + regression
Cantius mckennai	902.97	PBDB + regression
Cantius nunienus	1212.97	PBDB + regression
Cantius ralstoni	738.98	PBDB + regression
Cantius simonsi	3858.47	PBDB + regression
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Species	Mass (g)	Source
Cantius torresi	410.27	PBDB + regression
Cantius trigonodus	2000.00	(22)
Capricamelus gettyi	361557.35	PBDB + regression
Capromeryx tauntonensis	15835.35	(1)
Cardiophus radinskyi	32305.76	PBDB + regression
Cardiophus semihians	33364.14	PBDB + regression
Carpocristes cygneus	25.80	PBDB + regression
Carpocristes hobackensis	33.00	(22)
Carpocyon compressus	15214.44	(1)
Carpocyon robustus	19341.34	(1)
Carpocyon webbi	20537.34	(1)
Carpodaptes hazelae	51.17	PBDB + regression
Carpodaptes stonleyi	32.59	PBDB + regression
Carpolestes nigridens	87.00	(23)
Carpolestes simpsoni	27.99	PBDB + regression
Carpomegodon jepseni	166.29	PBDB + regression
Catopsalis alexanderi	3415.85	PBDB + regression
Catopsalis calgariensis	22815.78	PBDB + regression
Catopsalis foliatus	7371.53	PBDB + regression
Catopsalis joyneri	2435.00	(7)
Cedromus wardi	246.28	PBDB + regression
Centetodon aztecus	17.36	PBDB + regression
Centetodon bembicophagus	10.87	PBDB + regression
Centetodon chadronensis	23.37	PBDB + regression
Centetodon divaricatus	30.57	(1)
Centetodon hendryi	17.36	PBDB + regression
Centetodon kuenzii	26.62	PBDB + regression
Centetodon magnus	33.45	(1)
Centetodon neashami	53.67	PBDB + regression
Centetodon pulcher	30.03	PBDB + regression
Centimanomys major	239.72	PBDB + regression
Ceratogaulus hatcheri	1490.63	(19)
Cernictis hesperus	177.68	(1)
Cernictis repenningi	8800.69	(24)
Chacomylus sladei	151.65	PBDB + regression
Chadrolagus emryi	63.45	PBDB + regression
Chalicomomys willwoodensis	4.06	PBDB + regression
Chasmaporthetes ossifragus	107821.85	PBDB + regression
Chipetaia lamporea	417.80	PBDB + regression
Chiromyoides caesor	219.44	PBDB + regression
Chiromyoides minor	70.04	PBDB + regression
Chiromyoides potior	202.80	PBDB + regression
Chriacus badgleyi	1200.76	PBDB + regression
Chriacus baldwini	1550.07	PBDB + regression
Chriacus gallinae	1468.97	PBDB + regression
Chriacus pelvidens	5047.26	PBDB + regression
Chumashius balchi	111.45	PBDB + regression
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Species	Mass (g)	Source
Churheria baroni	50.76	PBDB + regression
Cimexomys minor	27.99	PBDB + regression
Cimolestes incisus	204.60	PBDB + regression
Colodon cingulatus	222816.55	PBDB
Colodon kayi	49060.48	PBDB + regression
Colodon occidentalis	110573.45	PBDB + regression
Colodon stovalli	57498.66	PBDB + regression
Colodon woodi	85748.60	PBDB + regression
Conacodon cophater	236.68	PBDB + regression
Conacodon delphae	3318.67	PBDB + regression
Conacodon entoconus	2268.93	PBDB + regression
Conacodon kohlbergeri	590.00	PBDB + regression
Conoryctes comma	16724.87	PBDB + regression
Copecion brachypternus	4501.11	PBDB + regression
Copecion davisi	2798.04	PBDB + regression
Copedelphys innominata	23.70	PBDB + regression
Copedelphys titanelix	6.11	PBDB + regression
Copelemur australotutus	1633.14	PBDB + regression
Copelemur tutus	1864.20	PBDB + regression
Copemys barstowensis	32.14	(1)
Copemys esmeraldensis	27.94	(1)
Copemys lindsayi	14.88	(1)
Copemys longidens	26.84	(1)
Copemys loxodon	28.79	(1)
Copemys mariae	31.50	(1)
Copemys pagei	15.18	(1)
Copemys russelli	24.29	(1)
Copemys shotwelli	10.39	PBDB + regression
Copemys tenuis	23.34	(1)
Coriphagus encinensis	254.29	PBDB + regression
Coriphagus montanus	130.39	PBDB + regression
Cormocyon copei	4817.45	(1)
Cormocyon haydeni	4359.01	(1)
Coryphodon armatus	351055.71	PBDB + regression
Coryphodon eoacenus	218518.57	PBDB + regression
Coryphodon lobatus	570461.25	PBDB + regression
Coryphodon proterus	479331.19	PBDB + regression
Coryphodon radians	339220.51	PBDB + regression
Cosoryx cerroensis	16814.55	(1)
Cosoryx furcatus	13678.75	PBDB
Cranioceras clarendonensis	89936.76	PBDB + regression
Cranioceras teres	96761.07	(1)
Cranioceras unicornis	134591.56	(1)
Cratogeomys sansimonensis	140.29	PBDB + regression
Crucimys milleri	36.60	(1)
Crypholestes vaughni	18.68	PBDB
Cryptotis adamsi	13.33	(1)
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Species	Mass (g)	Source
Cryptotis kansasensis	33.60	PBDB + regression
Cryptotis parva	4.10	PBDB
Cupidinimus avawatzensis	20.09	(1)
Cupidinimus bidahochiensis	27.39	(1)
Cupidinimus boronensis	14.59	(1)
Cupidinimus eurekaensis	2.98	PBDB
Cupidinimus halli	10.39	PBDB + regression
Cupidinimus lindsayi	7.61	(1)
Cupidinimus madisonensis	10.56	PBDB
Cupidinimus magnus	22.41	PBDB + regression
Cupidinimus nebraskensis	9.30	(1)
Cupidinimus prattensis	21.33	(1)
Cupidinimus tertius	16.44	(1)
Cupidinimus whitlocki	16.78	(1)
Cuvieronius tropicus	56818220.68	PBDB + regression
Cuyamalagus dawsoni	639.06	(1)
Cylindrodon fontis	88.57	PBDB + regression
Cylindrodon nebraskensis	167.14	PBDB + regression
Cynarctoides acridens	2921.93	(1)
Cynarctoides gawnae	2643.87	(1)
Cynarctoides harlowi	1863.11	(1)
Cynarctoides lemur	2321.57	(1)
Cynarctoides luskensis	2392.27	(1)
Cynarctoides roii	1826.21	(1)
Cynarctus crucidens	4964.16	(1)
Cynarctus galushai	9228.02	(1)
Cynarctus saxatilis	10097.06	(1)
Cynelos caroniavorus	16647.24	(1)
Cynelos idoneus	105873.47	(1)
Cynelos sinapius	213202.99	(1)
Cynodesmus martini	14185.85	(1)
Cynodesmus thooides	9228.02	(1)
Cynorca occidentale	20537.34	(1)
Cynorca sociale	34624.09	PBDB + regression
Cyriacotherium psamminum	3551.95	PBDB
Dakotallomys lillegraveni	196.53	PBDB
Dakotallomys pelycomyoides	244.01	(25)
Daphoenodon falkenbachii	137310.49	(1)
Daphoenodon notionastes	43477.55	(1)
Daphoenodon superbus	77652.58	(1)
Daphoenus hartshornianus	13329.17	PBDB + regression
Daphoenus lambei	7397.01	PBDB + regression
Daphoenus ruber	12767.60	PBDB + regression
Daphoenus socialis	13000.00	(4)
Daphoenus vetus	19535.72	(1)
Dartinius jepseni	10.52	(26)
Dasyops bellus	44977.99	(11)
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Species	Mass (g)	Source
Delahomeryx browni	38948.67	(1)
Desmatippus avus	179871.86	(1)
Desmatippus texanus	102452.28	PBDB
Desmatochoerus hesperus	239142.20	(27)
Desmatochoerus megalodon	335100.00	(4)
Desmatoclaenus hermaeus	11400.50	PBDB + regression
Desmatolagus schizopetrus	198.46	PBDB
Desmocyon matthewi	8103.08	(1)
Desmocyon thomsoni	6974.39	(1)
Diaconchus meizon	23.70	PBDB + regression
Diaconchus minutus	45.48	PBDB + regression
Diacodexis gracilis	788.63	PBDB + regression
Diacodexis kelleyi	1550.07	PBDB + regression
Diacodexis metsiacus	1176.50	PBDB + regression
Diacodexis minutus	555.14	PBDB + regression
Diacodexis primus	1389.84	PBDB + regression
Diacodexis secans	2124.77	PBDB + regression
Diacodon alticuspis	324.82	PBDB + regression
Diceratherium annectens	864580.76	(1)
Diceratherium armatum	3541284.24	(1)
Diceratherium gregorii	946518.90	PBDB + regression
Diceratherium niobrarense	2105366.25	(1)
Diceratherium tridactylum	965112.54	(1)
Didelphodus absarokae	361.10	PBDB + regression
Didelphodus altidens	246.37	PBDB + regression
Didelphodus rheos	139.74	PBDB + regression
Didelphodus serus	133.48	PBDB + regression
Didymictis altidens	30566.06	PBDB
Didymictis leptomylus	3213.72	PBDB + regression
Didymictis protenus	7205.96	PBDB + regression
Didymictis proteus	3605.48	PBDB + regression
Didymictis vancleveae	65421.88	(28)
Dikkomys matthewi	47.47	(1)
Dillerlemur pagei	133.09	PBDB + regression
Dilophodon destitutus	369866.51	(29)
Dilophodon minusculus	27074.75	PBDB + regression
Dinaelurus crassus	37320.00	(4)
Dinofelis palaeoonca	70032.50	PBDB + regression
Dinohippus interpolatus	257815.63	(1)
Dinohippus leardi	392385.48	(1)
Dinohippus leidymanus	229900.00	(30)
Dinohippus mexicanus	609259.77	(1)
Dinohippus spectans	536500.00	(4)
Dinohyus hollandi	2032979.00	PBDB + regression
Diplobunops matthewi	100751.34	PBDB + regression
Dipodomys compactus	49.20	(11)
Dipodomys gidleyi	17.97	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Dipodomys hibbardi	17.81	(1)
Diprionomys agrarius	29.87	PBDB + regression
Diprionomys parvus	11.00	(4)
Dipsalidictis aequidens	42263.45	PBDB + regression
Dipsalidictis platypus	8936.27	PBDB + regression
Dipsalidictis transiens	22310.00	PBDB + regression
Dipsalodon churchillorum	26647.76	PBDB + regression
Dipsalodon matthewi	66505.41	PBDB + regression
Dissacus navaiovius	6299.67	PBDB + regression
Dissacus praenuntius	14804.22	PBDB + regression
Domnina dakotensis	28.50	(1)
Domnina gradata	36.60	(1)
Domnina greeni	33.78	(1)
Domnina thompsoni	20.28	PBDB + regression
Domninoides hessei	149.90	(1)
Domninoides knoxjonesi	31.40	PBDB
Domninoides mimicus	135.64	(1)
Domninoides riparensis	56.83	(1)
Dorraletes diminutivus	37.32	PBDB + regression
Douglassciurus jeffersoni	360.63	(25)
Downsimus chadwicki	56.26	(1)
Drepanomeryx falciformis	90219.42	(1)
Dromomeryx borealis	144350.55	(1)
Dryomomys dulcifer	4.58	(31)
Dryomomys szalayi	6.07	(31)
Duchesneodus uintensis	2406372.12	PBDB + regression
Dyseohyus fricki	21807.30	(1)
Dyseolemur pacificus	70.04	PBDB + regression
Ectocion cedrus	4839.14	PBDB + regression
Ectocion collinus	5869.11	PBDB + regression
Ectocion major	12433.55	PBDB + regression
Ectocion mediotuber	5451.18	PBDB + regression
Ectocion osbornianus	6800.01	PBDB + regression
Ectocion parvus	3109.34	PBDB + regression
Ectocion superstes	13800.02	PBDB + regression
Ectoconus ditrigonus	22355.77	PBDB + regression
Ectoganus gliriformes	51205.04	(31)
Ectoganus gliriformis	51205.04	PBDB + regression
Ectopocynus antiquus	8266.78	(1)
Ectopocynus intermedius	12456.53	(1)
Ectypodus aphronorus	18.00	(7)
Ectypodus childei	14.42	PBDB + regression
Ectypodus lovei	14.42	PBDB + regression
Ectypodus musculus	30.25	PBDB + regression
Ectypodus powelli	19.74	PBDB + regression
Ectypodus szalayi	17.88	PBDB + regression
Ectypodus tardus	16.11	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Edworthia lerbekmoi	23.70	PBDB + regression
Ekgmowechashala philotau	2079.74	(1)
Elomeryx armatus	157944.66	(1)
Elphidotarsius florencae	17.88	PBDB + regression
Elphidotarsius russelli	23.70	PBDB + regression
Elphidotarsius wightoni	27.99	PBDB + regression
Elpidophorus elegans	829.40	PBDB + regression
Elpidophorus minor	151.65	PBDB + regression
Elwynella oreas	99.30	PBDB + regression
Elymys complexus	5.92	PBDB + regression
Enhydritherium terraenovae	22180.76	PBDB + regression
Enhydrocyon basilateralis	20332.99	(1)
Enhydrocyon crassidens	18582.95	(1)
Enhydrocyon pahinsintewakpa	14764.78	(1)
Enhydrocyon stenocephalus	14044.69	(1)
Entoptychus grandiplanus	59.74	(1)
Entoptychus individens	84.00	(4)
Entoptychus planifrons	134.29	(1)
Entoptychus sheppardi	94.63	(1)
Entoptychus wheelerensis	84.00	(4)
Eoconodon gaudrianus	3093.31	(32)
Eoconodon hutchisoni	9450.73	PBDB
Eoconodon nidhoggi	1665.06	PBDB + regression
Eohaplomys matutinus	1536.44	PBDB + regression
Eohaplomys serus	953.63	PBDB + regression
Eohaplomys tradux	772.04	PBDB + regression
Eomoropus amarorum	67651.40	PBDB + regression
Eoryctes melanus	53.67	PBDB + regression
Eotitanops borealis	240072.90	PBDB + regression
Eotitanops minimus	43277.45	PBDB + regression
Eotitanotherium osborni	1484895.52	PBDB
Eotylopus reedi	38563.77	PBDB + regression
Epeiromys spanius	101.65	PBDB + regression
Epicyon haydeni	41772.77	(1)
Epicyon saevus	27722.51	(1)
Epihippus gracilis	18366.29	PBDB + regression
Epihippus intermedius	21835.02	PBDB
Epitriplopus uintensis	32600.00	(30)
Eporeodon occidentalis	118300.00	(4)
Equus complicatus	399944.75	(11)
Equus conversidens	306196.34	(11)
Equus cumminsii	314354.39	PBDB + regression
Equus francisci	217178.22	PBDB + regression
Equus fromanius	172311.00	(4)
Equus giganteus	399944.75	(11)
Equus idahoensis	629100.30	PBDB + regression
Equus leidy	291150.23	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
<i>Equus occidentalis</i>	574116.46	(11)
<i>Equus scotti</i>	554625.71	(11)
<i>Equus simplicidens</i>	296558.57	(1)
<i>Eremotherium eomigrans</i>	2584400.00	(33)
<i>Eremotherium laurillardi</i>	799834.26	(11)
<i>Erethizon bathygnathum</i>	9163.63	PBDB + regression
<i>Erethizon kleini</i>	3854.02	PBDB + regression
<i>Escavadodon zygus</i>	137.63	PBDB + regression
<i>Esthonyx acutidens</i>	7159.09	PBDB + regression
<i>Esthonyx bisulcatus</i>	3066.57	PBDB + regression
<i>Esthonyx spatularius</i>	4505.96	PBDB + regression
<i>Eucyon davisi</i>	10509.13	(1)
<i>Eudaemonema cuspidata</i>	529.62	PBDB + regression
<i>Eumys brachyodus</i>	126.47	(1)
<i>Eumys elegans</i>	106.19	PBDB + regression
<i>Euoplocyon brachygnathus</i>	11271.13	(1)
<i>Euoplocyon spissidens</i>	9798.65	(1)
<i>Eusmilus cerebrealis</i>	804.32	(1)
<i>Eusmilus sicarius</i>	34789.94	PBDB + regression
<i>Eutypomys acares</i>	84.39	PBDB + regression
<i>Eutypomys hibernodus</i>	729.27	PBDB + regression
<i>Eutypomys inexpectatus</i>	708.27	PBDB + regression
<i>Eutypomys montanensis</i>	943.88	(1)
<i>Eutypomys obliquidens</i>	202.01	PBDB + regression
<i>Eutypomys parvus</i>	273.26	PBDB + regression
<i>Eutypomys thomsoni</i>	578.37	PBDB + regression
<i>Fanimus clasoni</i>	87.14	PBDB
<i>Fanimus ultimus</i>	164.02	(1)
<i>Felis rexroadensis</i>	30333.26	(1)
<i>Ferinestrix vorax</i>	29333.85	PBDB
<i>Florentiamys agnewi</i>	84.77	(1)
<i>Florentiamys kinseyi</i>	157.59	(1)
<i>Florentiamys loomisi</i>	151.41	(1)
<i>Florentiamys tiptoni</i>	117.92	(1)
<i>Floridachoerus olseni</i>	35596.41	(1)
<i>Floridameryx floridanus</i>	8184.52	(1)
<i>Floridatragulus dolichanthereus</i>	43477.55	(1)
<i>Floridatragulus texanus</i>	61083.68	(1)
<i>Fouchia elyensis</i>	10126.74	PBDB + regression
<i>Galbreathia bettae</i>	165.67	(1)
<i>Galbreathia novellus</i>	271.54	PBDB
<i>Galecyon mordax</i>	1984.90	PBDB + regression
<i>Gazinius amplus</i>	875.00	(22)
<i>Gazinocyon vulpeculus</i>	5070.63	PBDB + regression
<i>Gelastops joni</i>	183.10	PBDB + regression
<i>Gelastops parvus</i>	149.35	PBDB + regression
<i>Geomys carranzai</i>	29.87	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Geringia gloveri	26.84	(1)
Geringia mcgregori	41.26	(1)
Gigantocamelus spatulus	2615036.35	PBDB + regression
Glossotherium chapadmalense	310540.00	(33)
Glyptotherium arizonae	789680.00	(33)
Gomphotherium obscurum	50047676.55	PBDB
Gomphotherium osborni	24506452.87	(34)
Goniodontomys disjunctus	44.26	(1)
Gracilocyon winkleri	690.80	PBDB + regression
Grangeria anarsius	65434.40	PBDB + regression
Gregorymys curtus	106.70	(1)
Gregorymys formosus	77.48	(1)
Gregorymys riograndensis	43.82	(1)
Gripholagomys lavocati	507.76	(1)
Griphomys alecer	15.90	PBDB + regression
Griphomys toltecus	25.61	(25)
Guanajuatomys hibbardi	167.14	PBDB + regression
Guildayomys hibbardi	82.27	(1)
Hapalodectes anthracinus	352.26	PBDB + regression
Hapalodectes leptognathus	617.19	PBDB + regression
Haplaletes disceptatrix	84.86	PBDB + regression
Haplaletes pelicatus	130.39	PBDB + regression
Haploconus angustus	1200.76	PBDB + regression
Haplohippus texanus	23265.89	PBDB + regression
Haplolambda quinni	53092.09	PBDB
Haplolambda simpsoni	138271.36	(35)
Haplomylus bozemanensis	87.48	PBDB + regression
Haplomylus palustris	72.22	PBDB + regression
Haplomylus scottianus	115.36	PBDB + regression
Haplomylus simpsoni	162.53	PBDB + regression
Haplomylus speirianus	98.28	PBDB + regression
Haplomys galbreathi	38.23	PBDB + regression
Haplomys liolophus	39.00	(4)
Harpagolestes leotensis	138880.62	PBDB + regression
Harpagolestes uintensis	106686.23	PBDB + regression
Harrymys irvini	83.93	(1)
Harrymys magnus	50.40	(1)
Harrymys woodi	43.52	(15)
Heliscomys hatcheri	7.19	(7)
Heliscomys ostranderi	3.56	PBDB + regression
Heliscomys senex	4.67	PBDB + regression
Heliscomys vetus	4.67	PBDB + regression
Heliscomys woodi	10.39	PBDB + regression
Hemiacodon engardae	538.07	PBDB + regression
Hemiacodon gracilis	563.76	PBDB + regression
Hemiauchenia gracilis	157598.86	PBDB + regression
Hemiauchenia macrocephala	109900.58	(11)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Hemiauchenia minima	85819.37	(1)
Hemiauchenia vera	243143.10	PBDB + regression
Hemipsalodon grandis	436751.47	(36)
Hemithlaeus harbourae	1283.98	(37)
Hendryomeryx defordi	5742.28	PBDB
Hendryomeryx esulcatus	6619.36	PBDB + regression
Hendryomeryx wilsoni	3001.58	PBDB + regression
Heptacodon pellionis	88438.62	PBDB + regression
Heptodon calciculus	26551.76	PBDB + regression
Herpetotherium fugax	19.74	PBDB + regression
Herpetotherium knighti	51.17	PBDB + regression
Herpetotherium merriami	25.80	PBDB + regression
Herpetotherium valens	57.16	PBDB + regression
Herpetotherium youngi	40.09	PBDB + regression
Hesperhys pinensis	68186.37	(1)
Hesperhys vagrans	73865.41	(1)
Hesperocyon gregarius	3533.34	(1)
Hesperolagomys fluviatilis	169.02	(1)
Hesperolagomys galbreathi	149.90	(1)
Hesperoscalops mcgrewi	186.62	PBDB + regression
Heteralestes leotanus	14016.35	PBDB + regression
Heteromeryx dispar	51072.86	PBDB + regression
Heteropliohippus hulberti	302549.45	(1)
Hexacodus pelodes	625.82	PBDB + regression
Hexameryx simpsoni	30638.11	(1)
Hexobelomeryx fricki	59621.29	PBDB + regression
Hibbarderix obfuscatus	33.60	PBDB + regression
Hibbardomys fayae	61.14	PBDB + regression
Hibbardomys marthae	84.39	PBDB + regression
Hibbardomys skinneri	61.14	PBDB + regression
Hibbardomys voorhiesi	61.14	PBDB + regression
Hipparion forcei	194852.86	(1)
Hipparion tehonense	100709.96	(1)
Hippotherium emsliei	201622.66	PBDB + regression
Hippotherium ingenuum	109258.44	PBDB + regression
Hippotherium plicatile	165091.29	PBDB + regression
Hippotherium quinni	422193.86	PBDB + regression
Hitonkala macdonalddtau	24.53	(1)
Holmesina floridanus	68696.59	PBDB + regression
Homacodon vagans	6691.69	PBDB + regression
Homogalax protapirinus	19815.58	PBDB + regression
Homotherium crusafonti	233968.19	PBDB
Homotherium idahoensis	257900.00	(4)
Homotherium johnstoni	124571.99	PBDB + regression
Hoplophoneus mentalis	48420.73	PBDB + regression
Hoplophoneus primaevus	20243.49	PBDB + regression
Huerfanodon polecatensis	29749.42	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Huerfanodon torreonius	20823.53	PBDB + regression
Hyaenodon brevirostris	37331.34	PBDB + regression
Hyaenodon crucians	14771.98	PBDB + regression
Hyaenodon horridus	91750.41	PBDB + regression
Hyaenodon montanus	28357.49	PBDB + regression
Hyaenodon mustelinus	8079.01	PBDB + regression
Hyaenodon raineyi	1093.34	PBDB + regression
Hyaenodon venturae	2552.88	PBDB + regression
Hyaenodon vetus	33333.28	PBDB + regression
Hylomeryx quadricuspid	4966.19	PBDB + regression
Hyopsodus fastigatus	1894.05	PBDB + regression
Hyopsodus lepidus	625.82	PBDB + regression
Hyopsodus loomisi	488.31	PBDB + regression
Hyopsodus lysitensis	924.51	PBDB + regression
Hyopsodus mentalis	1482.35	PBDB + regression
Hyopsodus minor	440.75	PBDB + regression
Hyopsodus minusculus	440.75	PBDB + regression
Hyopsodus paulus	768.59	PBDB + regression
Hyopsodus paucillius	181.54	PBDB + regression
Hyopsodus powellianus	1416.00	PBDB + regression
Hyopsodus simplex	729.22	PBDB + regression
Hyopsodus tonksi	464.26	PBDB + regression
Hyopsodus uintensis	1495.78	PBDB + regression
Hyopsodus walcottianus	6172.52	PBDB + regression
Hyopsodus wortmani	798.73	PBDB + regression
Hypertragulus calcaratus	8880.00	(4)
Hypertragulus hesperius	4572.00	(4)
Hypohippus affinis	442413.39	(1)
Hypohippus equinus	271034.12	(1)
Hypohippus osborni	299539.03	(1)
Hypolagus edensis	665.14	(1)
Hypolagus fontinalis	1211.97	(1)
Hypolagus furlongi	678.58	(1)
Hypolagus gidleyi	1998.20	(1)
Hypolagus oregonensis	2344.90	(1)
Hypolagus parviplicatus	1702.75	(1)
Hypolagus ringoldensis	319.00	(4)
Hypolagus vetus	2892.86	(1)
Hypolagus voorhiesi	319.00	(4)
Hypsops bannackensis	146895.45	(38)
Hypsops breviceps	156373.08	(1)
Hyrachyus affinis	111138.67	PBDB + regression
Hyrachyus eximius	198513.08	PBDB + regression
Hyrachyus modestus	217770.66	PBDB + regression
Hyracodon leidyanus	459564.25	PBDB + regression
Hyracodon medius	102488.96	PBDB + regression
Hyracodon nebraskensis	211081.59	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Hyracodon petersoni	313951.52	PBDB + regression
Hyracodon priscidens	351463.36	PBDB + regression
Hyracotherium cristatum	23898.63	PBDB
Hyracotherium vasaccense	24900.00	(30)
Ictidopappus mustelinus	354.83	PBDB + regression
Ignacius fremontensis	19.74	PBDB + regression
Ignacius frugivorus	73.44	PBDB + regression
Ignacius graybullianus	128.62	PBDB + regression
Indarctos nevadensis	376215.79	PBDB + regression
Indarctos oregonensis	302549.45	(1)
Ischyrocyon gidleyi	282095.23	(1)
Ischyromys typus	761.25	PBDB + regression
Ischyromys veterior	477.49	PBDB + regression
Jacobsomys verdensis	50.91	(1)
Janimus dawsonae	17.97	PBDB + regression
Jaywilsonomys ojinagaensis	895.10	PBDB + regression
Jemezium szalaii	95.39	PBDB + regression
Jepsenella praepropera	18.80	PBDB + regression
Jimomys labaughi	69.41	(1)
Jimomys lulli	28.00	(4)
Kansasimys dubius	135.64	(1)
Kansasimys wilsoni	228.43	(39)
Kimbetohia mziae	72.00	(7)
Knightomys cremneus	27.28	PBDB + regression
Knightomys cuspidatus	48.29	PBDB
Knightomys depressus	64.79	PBDB + regression
Knightomys huerfanensis	135.17	PBDB + regression
Knightomys minor	27.28	PBDB + regression
Knightomys reginensis	10.39	PBDB + regression
Knightomys senior	44.30	PBDB + regression
Kolponomos clallamensis	103303.51	(40)
Kolponomos newportensis	876418.72	(41)
Kryptoceras amatorum	369534.73	(1)
Labidolemur kayi	33.60	PBDB + regression
Labidolemur serus	67.38	PBDB + regression
Labidolemur soricoides	14.63	PBDB + regression
Lambdotherium popoagicum	29620.91	PBDB + regression
Lambertocyon eximius	6045.26	PBDB + regression
Lambertocyon ischyryus	2015.61	PBDB + regression
Lanthanotherium sawini	90.14	PBDB + regression
Laredochoerus edwardsi	5523.91	PBDB + regression
Laredomys riograndensis	5.92	PBDB + regression
Leidymys cerasus	41.68	(1)
Leidymys korthi	35.35	PBDB + regression
Leipsanolestes siegfriedti	26.62	PBDB + regression
Lemoynea biradicularis	45.60	(1)
Lepoides lepoides	3640.95	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Leptacodon munusculum	6.56	PBDB + regression
Leptacodon packi	14.63	PBDB + regression
Leptacodon tener	8.61	PBDB + regression
Leptarctus mummorum	8673.78	PBDB + regression
Leptarctus oregonensis	2580.00	(4)
Leptarctus primus	149.90	(1)
Leptarctus supremus	7725.15	PBDB
Leptauchenia decora	20130.67	(1)
Leptauchenia major	30946.03	(1)
Leptictis dakotensis	644.52	PBDB + regression
Leptochoerus elegans	8623.90	PBDB + regression
Leptochoerus spectabilis	9021.94	PBDB + regression
Leptochoerus supremus	19397.68	PBDB + regression
Leptocyon mollis	3300.00	(4)
Leptocyon vafer	5377.61	(1)
Leptodontomys douglassi	4.67	PBDB + regression
Leptodontomys stirtoni	7.32	(42)
Leptolambda schmidtii	90362.43	(43)
Leptomeryx blacki	4578.72	PBDB + regression
Leptomeryx elissae	6511.38	PBDB + regression
Leptomeryx evansi	9426.05	PBDB + regression
Leptomeryx mammifer	18828.04	PBDB + regression
Leptomeryx speciosus	9223.24	PBDB + regression
Leptomeryx yoderi	10716.49	PBDB + regression
Leptoreodon edwardsi	13277.57	PBDB + regression
Leptoreodon leptolophus	9223.24	PBDB + regression
Leptoreodon major	32615.84	PBDB + regression
Leptoreodon marshi	20660.42	PBDB + regression
Leptoreodon pusillus	3957.21	PBDB + regression
Leptoreodon stocki	20980.32	PBDB + regression
Leptoromys wilsoni	110.81	PBDB + regression
Leptotomus caryophilus	872.14	PBDB + regression
Leptotomus leptodus	2852.74	PBDB + regression
Leptotomus parvus	941.80	PBDB + regression
Leptotragulus clarki	5364.24	PBDB + regression
Leptotragulus medius	13323.34	PBDB + regression
Leptotragulus proavus	11797.49	PBDB + regression
Lepus californicus	2288.00	PBDB
Lignimus austridakotensis	14.88	(1)
Lignimus montis	38.23	PBDB + regression
Limaconyssus habrus	18.80	PBDB + regression
Limnoecus niobrarensis	7.17	(1)
Limnoecus tricuspid	5.10	(1)
Liodontia alexandrae	198.34	(1)
Litaletes disjunctus	681.34	PBDB + regression
Litocherus lacunatus	84.86	PBDB + regression
Litocherus notissimus	37.32	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Litocherus zygeus	55.87	PBDB + regression
Litolagus molidens	103.28	PBDB + regression
Litolestes ignotus	18.80	PBDB + regression
Litomylus dissentaneus	124.29	PBDB + regression
Litomylus orthronepius	115.36	PBDB + regression
Litoyoderimys auogoleus	47.48	PBDB + regression
Longirostromeryx clarendonensis	13226.80	(1)
Longirostromeryx wellsii	17500.77	(1)
Lophiparamys debequensis	29.87	PBDB + regression
Lophiparamys murinus	88.57	PBDB + regression
Loveina minuta	45.48	PBDB + regression
Loveina zephyri	66.71	PBDB + regression
Loxolophus crisswelli	2140.57	PBDB + regression
Loxolophus hyattianus	1984.90	PBDB + regression
Loxolophus pentacus	14847.99	PBDB + regression
Loxolophus priscus	3899.92	PBDB + regression
Loxolophus schizophrenus	881.66	PBDB + regression
Loxolophus spiekeri	18323.92	PBDB + regression
Lutravus halli	454.86	(1)
Lycophocyon hutchisoni	4865.03	PBDB + regression
Lynx proterolyncis	15677.78	(1)
Lynx rufus	10482.00	PBDB
Machaeromeryx gilchristensis	4536.90	(1)
Machaeromeryx tragulus	4536.90	(1)
Macrocranion junnei	15.97	PBDB + regression
Macrocranion nitens	33.60	PBDB + regression
Macrognathomys crassigenis	106737.50	PBDB
Macrognathomys gemmacolis	5.92	PBDB + regression
Macrognathomys nanus	5.16	(1)
Macrotarsius montanus	1152.46	PBDB + regression
Macrotarsius roederi	1640.00	(22)
Macrotarsius siegerti	1188.60	PBDB + regression
Mahgarita stevensi	358.28	(44)
Malaquiferus tourteloti	14816.10	PBDB + regression
Mammacyon obtusidens	70262.96	(1)
Mammut americanum	4528975.80	(11)
Mammut cosoensis	29076021.42	(45)
Mammut furlongi	29535033.05	PBDB + regression
Mammuthus columbi	7998342.55	(11)
Mammut raki	41795334.69	PBDB + regression
Marmota korthi	2038.56	(1)
Marmota vetus	658.52	(1)
Martes gazini	1767.00	(4)
Martes parviloba	5831.67	(46)
Martinogale alveodens	17.99	(1)
Mattimys kalicola	32.56	PBDB + regression
Megacamelus merriami	1905014.16	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Megadelphus lundeliusi	3614.01	PBDB + regression
Megahippus matthewi	882046.45	(1)
Megalagus abaconis	1118.79	(1)
Megalagus brachyodon	373.57	PBDB + regression
Megalagus primitivus	3165.29	(1)
Megalagus turgidus	3071.74	(1)
Megalesthyx hopsoni	15975.00	(47)
Megalictis ferox	1587.63	(1)
Megalictis frazieri	33591.60	PBDB
Megalonix curvidens	185050.00	(33)
Megalonix leptostomus	279404.72	PBDB + regression
Megalonix wheatleyi	252445.15	PBDB + regression
Megantereon hesperus	67507.91	(1)
Megapeomys bobwilsoni	411.58	(1)
Megastomus tihen	55.70	(1)
Megatylopus cochrani	884486.95	PBDB + regression
Megatylopus matthewi	1383324.20	(1)
Megatylopus primaevus	884295.95	PBDB + regression
Meniscomys hippodus	69.41	(1)
Meniscomys uhtoffi	70.00	(4)
Meniscotherium chamense	17413.77	PBDB + regression
Meniscotherium tapiacitum	1864.20	PBDB + regression
Menoceras arikareense	597195.61	(1)
Menoceras barbouri	1251683.50	(1)
Menops bakeri	3993312.11	PBDB
Mentoclaenodon acrogenius	37446.92	PBDB + regression
Mephitis mephitis	2055.00	PBDB
Merriamoceros coronatus	15214.44	(1)
Merychippus brevidontus	124243.67	(1)
Merychippus calamarius	196811.17	(1)
Merychippus californicus	86681.87	(1)
Merychippus goorisi	222888.24	PBDB + regression
Merychippus gunteri	92041.97	(1)
Merychippus insignis	125492.34	(1)
Merychippus primus	95798.28	(1)
Merychippus relictus	60471.00	(4)
Merychippus sejunctus	75357.60	(1)
Merychys arenarum	52892.75	PBDB + regression
Merychys crabilli	6038.43	(48)
Merychys elegans	45706.69	(1)
Merychys medius	108012.26	(1)
Merychys minimus	29620.91	PBDB + regression
Merychys relictus	20923.07	PBDB
Merychys smithi	135340.58	PBDB + regression
Merychochoerus carrikeri	313334.13	(49)
Merychochoerus chelydra	289450.77	PBDB
Merychochoerus magnus	331041.82	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Merycochoerus matthewi	59736.09	PBDB + regression
Merycochoerus proprius	265667.29	(1)
Merycochoerus superbus	438400.00	(4)
Merycodus prodromus	8738.23	(50)
Merycodus sabulonis	10509.13	(1)
Merycodus warreni	12597.43	(51)
Merycoides harrisonensis	90219.42	(1)
Merycoides longiceps	56672.65	(52)
Merycoides pariogonus	77000.00	(4)
Merycoidodon bullatus	109500.00	(4)
Merycoidodon culbertsoni	116748.58	PBDB + regression
Merycoidodon major	62200.00	(4)
Mescalerolemur horneri	193.21	(53)
Mesocyon brachyops	7942.63	(1)
Mesocyon coryphaeus	10198.54	(1)
Mesocyon temnodon	7186.79	(1)
Mesodma ambigua	115.64	PBDB + regression
Mesodma formosa	32.59	PBDB + regression
Mesodma garfieldensis	37.51	PBDB + regression
Mesodma pygmaea	8.53	PBDB + regression
Mesodma thompsoni	54.13	PBDB + regression
Mesogaulus paniensis	926.80	PBDB
Mesohippus bairdi	39223.29	PBDB + regression
Mesohippus exoletus	47569.37	PBDB + regression
Mesohippus texanus	35643.43	PBDB + regression
Mesohippus westoni	39355.66	PBDB + regression
Mesonyx obtusidens	147850.73	PBDB
Mesoreodon chelonys	133078.52	(54)
Mesoreodon floridensis	104820.01	(1)
Mesoreodon minor	159700.00	(4)
Mesoscalops montanensis	85.63	(1)
Mesoscalops scopelotemos	95.58	(1)
Metadjidaumo hendryi	10.38	(1)
Metaliomys sevierensis	15.90	PBDB + regression
Metanoiamys agorus	12.11	PBDB + regression
Metanoiamys fantasma	20.14	PBDB + regression
Metanoiamys korthi	13.95	PBDB + regression
Metanoiamys lacus	10.39	PBDB + regression
Metanoiamys marinus	8.78	PBDB + regression
Metarhinus pater	1098772.19	PBDB
Metatomarctus canavus	10938.02	(1)
Metechinus amplior	567.90	(35)
Miacis deutschii	968.28	PBDB + regression
Miacis exiguus	1775.93	PBDB + regression
Miacis hookwayi	2350.87	(55)
Miacis latidens	2236.53	PBDB + regression
Miacis parvivorus	2384.02	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Miacis petilus	1591.36	PBDB + regression
Michenia agatensis	99707.88	(1)
Michenia exilis	65512.75	(1)
Microcosmodon conus	16.11	PBDB + regression
Microcosmodon rosei	27.99	PBDB + regression
Microeutypomys karenae	12.11	PBDB + regression
Microeutypomys tilliei	22.41	PBDB + regression
Micromomys antelucanus	5.04	PBDB
Microparamys cheradius	57.59	PBDB + regression
Microparamys dubius	20.14	PBDB + regression
Microparamys hunterae	14.33	PBDB
Microparamys minutus	24.79	PBDB + regression
Microparamys nimius	29.87	PBDB + regression
Microparamys sambucus	41.22	PBDB + regression
Microparamys tricus	57.59	PBDB + regression
Microparamys woodi	32.56	PBDB + regression
Micropternodus borealis	41.19	PBDB + regression
Micropternodus montrosensis	103.85	PBDB + regression
Micropternodus morgani	72.24	(1)
Microsus cuspidatus	2597.76	PBDB + regression
Microsyops angustidens	352.30	PBDB + regression
Microsyops annectens	1522.82	PBDB + regression
Microsyops cardiolestes	186.75	PBDB + regression
Microsyops elegans	738.98	PBDB + regression
Microsyops knightensis	521.24	PBDB + regression
Microsyops kratos	1455.64	PBDB + regression
Microsyops latidens	472.21	PBDB + regression
Microsyops scottianus	634.92	PBDB + regression
Microtomarctus conferta	8866.19	(1)
Mictomys vetus	76.28	PBDB + regression
Mimatuta morgoth	512.92	PBDB + regression
Mimetodon silberlingi	21.68	PBDB + regression
Mimomys mcknighti	110.70	PBDB
Mimomys panacaensis	84.39	PBDB + regression
Mimomys parvus	99.10	PBDB
Mimomys primus	163.60	PBDB
Mimomys taylori	80.90	PBDB
Mimoperadectes labrus	285.50	PBDB + regression
Mimotricentes fremontensis	2674.19	PBDB + regression
Mimotricentes subtrigonus	1984.90	PBDB + regression
Miniochoerus affinis	35835.68	PBDB
Miniochoerus gracilis	15437.78	PBDB
Minippus index	4819.64	PBDB
Mioclaenus turgidus	4412.84	PBDB + regression
Miocyon scotti	41776.02	PBDB + regression
Miocyon vallisrubrae	14244.90	PBDB + regression
Mioheteromys amplissimus	41.26	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Miohippus anceps	41650.00	(4)
Miohippus assiniboensis	78519.40	PBDB + regression
Miohippus equiceps	41650.00	(4)
Miohippus equinanus	35954.16	(1)
Miohippus gidleyi	129635.34	PBDB + regression
Miohippus grandis	76252.18	PBDB
Miohippus intermedius	82454.34	(1)
Miohippus obliquidens	52575.21	(1)
Miolabis fricki	240385.70	(1)
Miomustela madisonae	13.46	(1)
Mionictis elegans	6652.51	PBDB
Mionictis incertus	9269.73	PBDB
Mionictis letifer	134.29	(1)
Mionictis pristinus	32167.60	PBDB + regression
Miosciurus balloviatus	36.60	(1)
Miosicista angulus	8.15	PBDB
Miospermophilus laveryi	106.70	(1)
Miospermophilus wyomingensis	83.10	(1)
Miotapirus harrisonensis	275463.83	PBDB + regression
Miotylopus gibbi	48050.12	(1)
Miotylopus leonardi	43044.94	(1)
Miotylopus taylori	73865.41	(1)
Miracinonyx inexpectatus	41653.42	PBDB + regression
Miracinonyx studeri	25529.71	PBDB + regression
Mithrandir gilliamus	644.09	PBDB + regression
Mixodectes malaris	538.07	PBDB + regression
Mixodectes pungens	1563.78	PBDB + regression
Mojavemys galushai	28.22	(1)
Mojavemys lophatus	15.19	PBDB
Mojavemys magnumarcus	56.26	(1)
Montanatylopus matthewi	176770.65	PBDB + regression
Mookomys altifluminis	13.07	(1)
Mookomys formicarum	11.86	PBDB
Mookomys thrinax	11.94	(1)
Moropus elatus	707858.86	(1)
Moropus merriami	173767.00	(4)
Moropus oregonensis	189094.09	(1)
Mustela frenata	146.89	(11)
Mustela meltoni	895.71	PBDB + regression
Mustela rexroadensis	9.58	(1)
Mylandon rosei	27.99	PBDB + regression
Mylohyus elmoresi	168990.43	PBDB + regression
Myrmecoboides montanensis	45.21	PBDB + regression
Myrmecophaga tridactyla	32544.00	PBDB
Mysops parvus	54.13	PBDB + regression
Mystipterus martini	29.37	(1)
Mystipterus pacificus	14.88	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Mytonolagus petersoni	213.83	PBDB + regression
Mytonolagus wyomingensis	84.09	PBDB + regression
Mytonomeryx scotti	5465.38	PBDB + regression
Mytonomys burkei	2757.96	PBDB + regression
Mytonomys mytonensis	1177.52	PBDB + regression
Mytonomys robustus	2795.71	PBDB + regression
Namatomys lloydi	24.79	PBDB + regression
Nannippus aztecus	106272.86	PBDB + regression
Nannippus beekensis	137564.87	PBDB + regression
Nannippus peninsulatus	68871.66	(1)
Nannippus westoni	62317.65	(1)
Nannodectes gidleyi	521.24	PBDB + regression
Nannodectes intermedius	133.09	PBDB + regression
Nannodectes simpsoni	402.81	PBDB + regression
Nanodelphys hunti	7.27	PBDB + regression
Nanotragulus loomisi	2724.39	(1)
Nanotragulus ordinatus	5541.39	(1)
Nanotragulus planiceps	3678.00	(4)
Navajovius kohlhaasae	12.82	PBDB + regression
Nebraskomys mcgrewi	46.06	(1)
Nebraskomys rexroadensis	47.48	PBDB + regression
Nekrolagus progressus	1510.20	(1)
Neohipparion affine	167711.41	(1)
Neohipparion eurystyle	133252.35	(1)
Neohipparion leptode	233281.23	(1)
Neohipparion trampasense	120571.71	(1)
Neoliotomus conventus	1894.05	PBDB + regression
Neoliotomus ultimus	2252.70	PBDB + regression
Neoplagiaulax donaldorum	52.00	(7)
Neoplagiaulax grangeri	93.00	(7)
Neoplagiaulax hazeni	95.39	PBDB + regression
Neoplagiaulax hunteri	42.74	PBDB + regression
Neoplagiaulax macrotomeus	14.42	PBDB + regression
Neoplagiaulax mckennai	60.27	PBDB + regression
Neotoma cinerea	299.23	(11)
Neotoma fossilis	161.61	PBDB + regression
Neotoma leucopetrica	389.66	(56)
Neotoma quadriplicata	477.49	PBDB + regression
Neotoma sawrockensis	99.48	(1)
Neotoma taylori	190.07	PBDB + regression
Neotoma voughani	190.07	PBDB + regression
Nerterogeomys anzensis	80.55	PBDB
Nerterogeomys garbanii	157.02	PBDB
Nerterogeomys minor	38.23	PBDB + regression
Nerterogeomys persimilis	49.62	(56)
Nexuotapirus marslandensis	144350.55	(1)
Nexuotapirus robustus	302549.45	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Niglarodon koeneri	68.03	(1)
Nimravides galiani	159532.03	(1)
Nimravides thinobates	9582364.97	PBDB
Nimravus brachyops	3789.54	(1)
Nimravus sectator	112444.51	PBDB + regression
Niptomomys doreenae	17.88	PBDB + regression
Niptomomys thelmae	19.74	PBDB + regression
Nonomys gutzleri	20.14	PBDB + regression
Nonomys simplicidens	15.90	PBDB + regression
Notharctus pugnax	3034.76	PBDB + regression
Notharctus robinsoni	3318.67	PBDB + regression
Notharctus robustior	6900.00	(22)
Notharctus tenebrosus	4325.36	PBDB + regression
Notharctus venticolus	2691.73	PBDB + regression
Nothokemas floridanus	100709.96	(1)
Nothokemas waldropi	22925.38	(1)
Nothotylopus campognathus	334368.85	(1)
Nothrotheriops shastensis	613762.01	(57)
Nothrotheriops texanus	124768.59	PBDB + regression
Notiosorex jacksoni	11.14	(58)
Notiosorex repenningi	17.08	(59)
Notiotitanops mississippiensis	4455686.16	PBDB + regression
Notolagus lepusculus	372.41	(1)
Nototamias hulberti	17.12	(1)
Nototamias quadratus	35.87	(1)
Nyctitherium serotinum	12.08	PBDB + regression
Nyctitherium velox	24.97	PBDB + regression
Ochotona spanglei	188.67	(1)
Odocoileus virginianus	52607.00	PBDB
Ogmodontomys poaphagus	131.63	(1)
Ogmodontomys sawrockensis	140.40	PBDB
Oklahomalagus whisenhunti	387.61	(1)
Oligobunis floridanus	24237.19	PBDB + regression
Oligoryctes cameronensis	4.73	PBDB + regression
Oligoscalops galbreathi	15.04	PBDB + regression
Oligospermophilus douglassi	115.51	PBDB + regression
Omomys carteri	171.31	PBDB + regression
Omomys lloydi	66.71	PBDB + regression
Onychomys hollisteri	20.14	PBDB + regression
Onychomys martini	18.36	(1)
Onychomys pedroensis	36.23	(1)
Oregonomys magnus	20.14	PBDB + regression
Oregonomys pebblespringsensis	26.58	(1)
Oregonomys sargenti	26.05	(1)
Oreodontoides oregonensis	25336.47	(1)
Oreolagus colteri	48.28	PBDB + regression
Oreolagus nebrascensis	336.97	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Oreolagus nevadensis	78.00	(4)
Oreolagus wallacei	354.25	(1)
Oreotalpa florissantensis	10.87	PBDB + regression
Orohippus pumilus	11144.64	PBDB + regression
Orohippus sylvaticus	10210.29	PBDB + regression
Oromeryx plicatus	8545.03	PBDB + regression
Oropycitis pediasius	161.61	PBDB + regression
Osbornoceros osborni	17326.63	(1)
Osbornodon brachypus	12282.74	(60)
Osbornodon fricki	25848.30	(1)
Osbornodon iammonensis	13904.95	(1)
Osbornodon renjie	9337.04	PBDB + regression
Osbornodon scitulus	11849.01	(1)
Osbornodon sesnoni	8349.86	(1)
Otarocyon cooki	1826.21	(1)
Otarocyon macdonaldi	1270.84	PBDB + regression
Ottoceros peacevalleyensis	13493.99	(1)
Ourayia hopsoni	590.00	PBDB + regression
Ourayia uintensis	758.66	PBDB + regression
Oxetocyon cuspidatus	2440.60	(1)
Oxyacodon agapetillus	352.30	PBDB + regression
Oxyacodon apiculatus	1116.82	PBDB + regression
Oxyacodon ferronensis	616.78	PBDB + regression
Oxyacodon priscilla	808.90	PBDB + regression
Oxyaena forcipata	49289.23	PBDB + regression
Oxyaena gulo	42202.38	PBDB + regression
Oxyaena intermedia	44676.22	PBDB + regression
Oxyclaenus cuspidatus	760.59	PBDB + regression
Oxyclaenus pugnax	1812.53	PBDB + regression
Oxyclaenus simplex	566.68	PBDB + regression
Oxydactylus longipes	112420.32	(1)
Oxydactylus lulli	140198.81	PBDB
Oxyprimus erikseni	133.09	PBDB + regression
Pachyaena gigantea	71758.33	PBDB + regression
Pachyaena gracilis	38119.28	PBDB + regression
Pachyaena ossifraga	460896.74	PBDB
Pachyarmatherium leiseyi	15420.00	(33)
Pacichthys montanus	68.53	PBDB + regression
Pacichthys nebraskensis	80.64	(1)
Pacichthys woodi	32.63	(61)
Paenemarmota barbouri	10301.04	(1)
Paenemarmota mexicana	10977.77	PBDB + regression
Paenemarmota nevadensis	7644.00	(4)
Paenemarmota sawrockensis	5943.18	(1)
Palaeichthys alticuspis	51.17	PBDB + regression
Palaeichthys woodi	27.99	PBDB + regression
Palaeictops bicuspis	143.19	(9)
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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Palaeictops bridgeri	139.74	PBDB + regression
Palaeictops multicuspis	149.35	PBDB + regression
Palaeogale dorothiae	607.89	(1)
Palaeogale minuta	400.00	NOW
Palaeogale sectoria	716.63	PBDB
Palaeolagus burkei	307.97	(1)
Palaeolagus hemirhizis	128.62	PBDB + regression
Palaeolagus hypsodus	678.58	(1)
Palaeolagus philoi	1211.97	(1)
Palaeolagus primus	119.90	PBDB + regression
Palaeolagus temnodon	171.31	PBDB + regression
Palaeonictis occidentalis	36870.62	PBDB + regression
Palaeonictis peloria	60916.03	PBDB + regression
Palaeoryctes cruoris	62.68	PBDB + regression
Palaeoryctes puercensis	24.97	PBDB + regression
Palaeosyops laevidens	1052429.44	PBDB + regression
Palaeosyops paludosus	1388030.44	PBDB + regression
Palaeosyops robustus	1619966.85	PBDB + regression
Palenochtha minor	9.87	PBDB + regression
Palenochtha weissae	9.87	PBDB + regression
Paleotomus junior	171.31	PBDB + regression
Paleotomus radagasti	1351.50	PBDB
Panthera onca	100000.00	PBDB
Pantolambda bathmodon	63252.15	PBDB
Pantolambda cavirictus	35087.78	PBDB + regression
Pantolambda intermedius	19134.73	PBDB + regression
Parablastomeryx galushi	19345.66	PBDB + regression
Paracosoryx furlongi	13493.99	(1)
Paracosoryx wilsoni	15473.78	PBDB
Paracryptotis gidleyi	28.22	(1)
Paracryptotis rex	42.10	(1)
Paracynarctus kelloggi	8349.86	(1)
Paracynarctus sinclairei	8022.46	(1)
Paradaphoenus cuspidatus	4023.87	(1)
Paradaphoenus minimus	3314.52	PBDB + regression
Paradaphoenus tooheyi	3498.19	(1)
Paradjidaumo alberti	15.90	PBDB + regression
Paradjidaumo hypsodus	29.87	PBDB + regression
Paradjidaumo reynoldsi	20.14	PBDB + regression
Paradjidaumo spokaneensis	54.13	PBDB + regression
Paradjidaumo trilophus	32.56	PBDB + regression
Paradjidaumo validus	61.14	PBDB + regression
Paradominia relictus	23.81	(1)
Paraenhydrocyon josephi	7942.63	(1)
Paraenhydrocyon wallovianus	14185.85	(1)
Parahippus leonensis	94845.07	(1)
Parahippus pawnsiensis	99707.88	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Parahippus tyleri	105994.41	PBDB + regression
Parahippus wyomingensis	98400.00	(30)
Parahyus vagus	185903.42	PBDB + regression
Paralabis cedrensis	75771.66	PBDB + regression
Parallomys americanus	162.39	(1)
Paramiolabis taylori	131926.47	(1)
Paramylodon harlani	1185306.75	PBDB + regression
Paramys adamus	50.76	PBDB + regression
Paramys atavus	47.48	PBDB + regression
Paramys compressidens	1746.66	PBDB + regression
Paramys copei	540.72	PBDB + regression
Paramys delicatior	708.27	PBDB + regression
Paramys delicatus	1793.22	PBDB + regression
Paramys excavatus	259.62	PBDB + regression
Paramys taurus	316.00	PBDB + regression
Paranamatomys storeri	7.59	PBDB
Paraplihippus carrizoensis	80821.64	(1)
Parapliosacomys oregonensis	24.29	(1)
Parapliosacomys transversus	45.58	PBDB
Parapotos tedfordi	3533.34	(1)
Pararyctes pattersoni	17.36	PBDB + regression
Paratomarctus euthos	14472.42	(1)
Paratomarctus temerarius	11498.82	(1)
Paratylopus labiatus	47357.63	PBDB + regression
Paratylopus primaevus	29814.41	PBDB + regression
Parectypodus clemensi	23.70	PBDB + regression
Parectypodus corystes	40.09	PBDB + regression
Parectypodus laytoni	11.30	PBDB + regression
Parectypodus lunatus	21.68	PBDB + regression
Parectypodus simpsoni	37.51	PBDB + regression
Parectypodus sinclairi	19.00	(7)
Parectypodus sylviae	12.82	PBDB + regression
Parectypodus trovessartianus	87.78	PBDB + regression
Pareumys boskeyi	88.57	PBDB + regression
Pareumys grangeri	57.59	PBDB + regression
Pareumys guensburgi	140.29	PBDB + regression
Pareumys milleri	76.28	PBDB + regression
Parictis parvus	1594.41	PBDB + regression
Parictis personi	2218.53	PBDB + regression
Paromomys depressidens	57.16	PBDB + regression
Paromomys maturus	197.38	PBDB + regression
Paronychomys alticuspis	17.12	(1)
Paronychomys lemredfieldi	20.09	(1)
Paronychomys tuttlei	38.86	(1)
Paroreodon parvus	51150.00	(4)
Parvericius montanus	41.26	(1)
Parvericius voorhiesi	28.79	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
<i>Patriofelis ferox</i>	22418.00	(4)
<i>Patriofelis ulta</i>	48311.29	PBDB + regression
<i>Patriolestes novaceki</i>	246.37	PBDB + regression
<i>Pauromys exallos</i>	17.97	PBDB + regression
<i>Pauromys lillegraveni</i>	12.11	PBDB + regression
<i>Pauromys simplex</i>	13.95	PBDB + regression
<i>Pauromys texensis</i>	17.97	PBDB + regression
<i>Pediomeryx hemphillensis</i>	167711.41	(1)
<i>Pelycodus jarrovi</i>	3222.75	PBDB + regression
<i>Pelycomys brulanus</i>	214.27	PBDB + regression
<i>Pelycomys rugosus</i>	330.84	PBDB + regression
<i>Penetrignias hudsoni</i>	601751.47	PBDB
<i>Pentacemylus leotensis</i>	5601.22	PBDB + regression
<i>Pentacemylus progressus</i>	7131.24	PBDB + regression
<i>Pentacodon inversus</i>	604.36	PBDB + regression
<i>Pentacodon occultus</i>	1560.69	PBDB + regression
<i>Peraceras hessei</i>	936589.16	(1)
<i>Peraceras profectum</i>	2326789.55	(1)
<i>Peraceras superciliosum</i>	1639660.88	(1)
<i>Peradectes californicus</i>	6.11	PBDB + regression
<i>Peradectes chesteri</i>	5.04	PBDB + regression
<i>Peradectes elegans</i>	11.30	PBDB + regression
<i>Peradectes minor</i>	11.23	(62)
<i>Peradectes protinnominatus</i>	12.82	PBDB + regression
<i>Peratherium comstocki</i>	87.78	PBDB + regression
<i>Peratherium marsupium</i>	91.55	PBDB + regression
<i>Perchoerus probus</i>	24602.41	PBDB + regression
<i>Peridiomys halis</i>	63.43	(1)
<i>Peridiomys oregonensis</i>	35.35	PBDB + regression
<i>Peridiomys rusticus</i>	69.41	(1)
<i>Periptychus carinidens</i>	30641.27	PBDB + regression
<i>Periptychus coarctatus</i>	22723.44	PBDB + regression
<i>Perognathus ancenensis</i>	11.47	(1)
<i>Perognathus coquorum</i>	35.35	PBDB + regression
<i>Perognathus dunklei</i>	7.92	(1)
<i>Perognathus furlongi</i>	9.68	(1)
<i>Perognathus gidleyi</i>	11.82	(1)
<i>Perognathus maldei</i>	10.39	PBDB + regression
<i>Perognathus mclaughlini</i>	8.33	(1)
<i>Perognathus minutus</i>	5.93	(1)
<i>Perognathus pearlettensis</i>	6.89	(1)
<i>Perognathus rexroadensis</i>	17.97	PBDB + regression
<i>Perognathus trojectionansrum</i>	3.63	(1)
<i>Peromyscus antiquus</i>	26.84	(1)
<i>Peromyscus brachygnathus</i>	10.39	PBDB + regression
<i>Peromyscus complexus</i>	25.46	PBDB
<i>Peromyscus cragini</i>	15.49	(1)
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Peromyscus dentalis	12.11	PBDB + regression
Peromyscus hagermanensis	19.89	(1)
Peromyscus minimus	4.67	PBDB + regression
Peromyscus nosher	15.90	PBDB + regression
Peromyscus polionotus	14.30	PBDB
Peromyscus sarmocophinus	17.97	PBDB + regression
Petauristodon jamesi	307.97	(1)
Petauristodon mathewsi	214.86	(1)
Petauristodon pattersoni	336.97	(1)
Pewelagus dawsonae	447.84	(63)
Pewelagus mexicanus	186.75	PBDB + regression
Phelosacomys annae	26.31	(1)
Phelosacomys hibbardi	46.53	(1)
Phelosacomys neomexicanus	19.89	(1)
Phelosacomys shotwelli	20.49	(1)
Phenacocoelus typus	52052.08	(1)
Phenacodaptes sabulosus	109.55	PBDB + regression
Phenacodus bisonensis	17047.49	PBDB + regression
Phenacodus grangeri	28510.66	PBDB + regression
Phenacodus intermedius	45430.80	PBDB + regression
Phenacodus magnus	72471.82	PBDB + regression
Phenacodus matthewi	5446.34	(64)
Phenacodus trilobatus	64494.29	PBDB + regression
Phenacodus vortmani	10636.06	PBDB + regression
Phenacolemur fortior	186.75	(65)
Phenacolemur mcgrewi	63.45	PBDB + regression
Phenacolemur praecox	151.65	PBDB + regression
Phenacolemur simonsi	40.09	PBDB + regression
Phenacomys gryci	228.00	(4)
Philotrox condoni	11968.10	(1)
Phlaocyon achoros	2951.30	(1)
Phlaocyon annectens	3498.19	(1)
Phlaocyon latidens	2779.43	(1)
Phlaocyon leucosteus	3827.63	(1)
Phlaocyon minor	3498.19	(1)
Phlaocyon taylori	1939.14	(1)
Phlaocyon yatkolai	9604.62	(1)
Phoberocyon johnhenryi	179871.86	(1)
Picrodus calgariensis	12.82	PBDB + regression
Picrodus canpaci	48.28	PBDB + regression
Picrodus silberlingi	48.28	PBDB + regression
Pipestoneomys bisulcatus	47.48	PBDB + regression
Plagiostenodon krausae	4.73	PBDB + regression
Plagiostenodon rosei	10.87	PBDB + regression
Plagiomene accola	359.33	PBDB + regression
Plagiomene multicuspis	850.13	PBDB + regression
Planisorex dixonensis	12.08	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Platygonus bicalcaratus	114741.07	PBDB + regression
Platygonus oregonensis	40134.84	(1)
Platygonus pearcei	55826.28	(1)
Platygonus vetus	65463.62	(57)
Plesiadapis anceps	291.90	PBDB + regression
Plesiadapis churchilli	871.09	PBDB + regression
Plesiadapis cookei	4434.83	PBDB + regression
Plesiadapis dubius	417.80	PBDB + regression
Plesiadapis fodinatus	709.89	PBDB + regression
Plesiadapis gingerichi	2726.96	PBDB + regression
Plesiadapis praecursor	192.03	PBDB + regression
Plesiadapis rex	690.80	PBDB + regression
Plesiocolopirus hancocki	42441.52	PBDB + regression
Plesiogulo lindsayi	4628.55	(1)
Plesiogulo marshalli	3133.79	(1)
Plesiolestes nacimienti	233.00	(22)
Plesiolestes problematicus	115.64	PBDB + regression
Plesiolestes wilsoni	366.42	PBDB + regression
Plesiosminthus clivosus	9.30	(1)
Plesiosorex coloradensis	192.48	(1)
Plesiosorex donroosai	685.40	(1)
Pleurolicus dakotensis	60.95	(1)
Pleurolicus exiguus	24.79	PBDB + regression
Pleurolicus sellardsi	53.28	(66)
Pleurolicus sulcifrons	83.93	(1)
Pliocyon medius	172818.99	(1)
Pliocyon robustus	176310.16	(1)
Pliogale furlongi	456.36	(65)
Pliogale manka	2986.47	PBDB + regression
Pliogeomys parvus	10.28	(1)
Pliogeomys russelli	15.18	(1)
Plihippus fossulatus	257815.63	(1)
Plihippus pernix	198789.15	(1)
Plihippus tehonensis	164875.58	PBDB + regression
Pliometanastes galushai	8636.25	PBDB
Pliometanastes protistus	88139.12	PBDB + regression
Plionarctos edensis	56954.05	(1)
Plionarctos harroldorum	47351.79	PBDB + regression
Plionictis ogygia	36.97	(1)
Pliophenacomys dixonensis	50.76	PBDB + regression
Pliophenacomys finneyi	64.79	PBDB + regression
Pliophenacomys meadensis	54.13	PBDB + regression
Pliophenacomys osborni	86.49	(1)
Pliophenacomys primaevus	61.56	(1)
Pliosaccomys dubius	27.66	(1)
Pliosaccomys higginsensis	18.17	(1)
Pliotaxidea garberi	4440.12	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Pliotaxidea nevadensis	130.32	(1)
Pliotomodon primitivus	107.77	(1)
Pliozeugon solus	18.73	(1)
Plithocyon ursinus	189094.09	(1)
Poabromylus golzi	11885.48	PBDB + regression
Poabromylus kayi	23487.74	PBDB + regression
Poebrotherium eximium	50423.02	PBDB + regression
Poebrotherium wilsoni	60615.67	PBDB + regression
Pogonodon eileenae	138453.42	(67)
Pratifelis martini	215345.72	(1)
Pratilepus kansasensis	972.63	(1)
Premnoides douglassi	40.09	PBDB + regression
Presbysomys lophatus	72.36	PBDB + regression
Presbyterium rhodorugatus	2901.91	PBDB + regression
Princetonella yalensis	1703.86	PBDB + regression
Probassariscus matthewi	2396.46	PBDB + regression
Probathyopsis harrisorum	96406.85	PBDB + regression
Probathyopsis praecursor	119830.36	PBDB + regression
Problastomeryx primus	14913.17	(1)
Procamelus grandis	400312.19	(1)
Procamelus occidentalis	189094.09	(1)
Procerberus formicarum	67.38	PBDB + regression
Prochetodon cavus	213.83	PBDB + regression
Prochetodon foxi	202.80	PBDB + regression
Prochetodon speirsae	417.88	PBDB
Prochetodon taxus	480.23	PBDB + regression
Procranioceras skinneri	169396.94	(1)
Procynodictis progressus	3665.64	PBDB + regression
Procyon lotor	5814.00	PBDB
Procyon rexroadensis	9632.47	PBDB + regression
Prodiacodon concordiaricensis	43.19	PBDB + regression
Prodiacodon crustulum	125.81	(68)
Prodiacodon furor	66.91	(36)
Prodiacodon puercensis	225.49	(69)
Prodiacodon tauricinerei	82.27	PBDB + regression
Prodipodomys centralis	21.26	(70)
Prodipodomys idahoensis	22.42	(1)
Prodipodomys kansensis	12.81	(1)
Prodipodomys timoteoensis	20.14	PBDB + regression
Prohesperocyon wilsoni	3787.93	PBDB + regression
Proheteromys fedti	17.97	PBDB + regression
Proheteromys floridanus	5.37	(1)
Proheteromys gremmelsi	27.97	(70)
Proheteromys ironcloudi	10.59	(1)
Proheteromys maximus	87.36	(1)
Proheteromys nebraskensis	21.54	PBDB
Proheteromys sulculus	15.90	PBDB + regression
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
<i>Proheteromys toledoensis</i>	59.15	(1)
<i>Prolapsus junctionis</i>	72.36	PBDB + regression
<i>Prolapsus sibilatoris</i>	178.45	PBDB + regression
<i>Prolimnocyon antiquus</i>	1442.37	PBDB + regression
<i>Prolimnocyon atavus</i>	2467.80	PBDB + regression
<i>Prolimnocyon haematus</i>	1058.55	PBDB + regression
<i>Promartes darbyi</i>	3029.14	(71)
<i>Promartes gemmarosae</i>	1945.16	(71)
<i>Promartes lepidus</i>	6776.78	(72)
<i>Promioclauenus acolytus</i>	410.27	PBDB + regression
<i>Promioclauenus pipiringosi</i>	748.79	PBDB + regression
<i>Promioclauenus thnetus</i>	260.57	(73)
<i>Promylagaulus riggsi</i>	85.63	(1)
<i>Pronodens silberlingi</i>	22247.84	(1)
<i>Pronothodectes gaoi</i>	254.50	PBDB + regression
<i>Pronothodectes jepi</i>	242.55	PBDB + regression
<i>Pronothodectes matthewi</i>	142.24	PBDB + regression
<i>Pronotolagus apachensis</i>	445.86	(1)
<i>Pronotolagus nevadensis</i>	60.34	(1)
<i>Pronotolagus whitei</i>	1436.55	(1)
<i>Proscalops miocaenus</i>	28.30	PBDB + regression
<i>Proscalops secundus</i>	72.97	(1)
<i>Proscalops tertius</i>	96.54	(1)
<i>Prosciurus magnus</i>	106.19	PBDB + regression
<i>Prosciurus parvus</i>	68.53	PBDB + regression
<i>Prosciurus relictus</i>	64.79	PBDB + regression
<i>Prosigmodon chihuahuensis</i>	72.36	PBDB + regression
<i>Prosigmodon ferrusquiai</i>	48.33	PBDB
<i>Prosigmodon holocuspis</i>	113.30	(1)
<i>Prosigmodon oroscoi</i>	27.28	PBDB + regression
<i>Prosomys mimus</i>	32.56	PBDB + regression
<i>Prosthennops niobrarenensis</i>	43044.94	(1)
<i>Prosthennops serus</i>	53637.30	(1)
<i>Prosthennops xiphodonticus</i>	23860.99	(1)
<i>Prosynthetoceras francisi</i>	134591.56	(1)
<i>Prosynthetoceras orthrionanus</i>	40134.84	(1)
<i>Protadjidaumo pauli</i>	17.97	PBDB + regression
<i>Protadjidaumo typus</i>	12.11	PBDB + regression
<i>Protapirus obliquidens</i>	168000.80	(74)
<i>Protapirus simplex</i>	189283.62	PBDB + regression
<i>Protepicyon raki</i>	23623.56	(1)
<i>Proterix bicuspis</i>	194.51	(75)
<i>Proterix loomisi</i>	523.22	PBDB + regression
<i>Proterixoides davisi</i>	242.45	PBDB + regression
<i>Prothryptacodon albertensis</i>	464.26	PBDB + regression
<i>Prothryptacodon furens</i>	1351.03	PBDB + regression
<i>Prothryptacodon hilli</i>	1954.40	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Protictis haydenianus	2074.37	PBDB + regression
Protictis microlestes	722.34	PBDB
Protictis minor	1270.84	PBDB + regression
Protictis paralus	354.83	PBDB + regression
Protictis paulus	298.35	PBDB
Protictis simpsoni	3202.65	PBDB + regression
Protitanops curryi	142477.00	(1)
Protitanotherium superbum	2858807.95	PBDB + regression
Protoceras celer	105068.04	PBDB + regression
Protoceras skinneri	81023.96	PBDB
Protohippus gidleyi	164390.50	(1)
Protohippus perditus	135944.23	(1)
Protohippus supremus	167711.41	(1)
Protohippus vetus	123329.89	PBDB
Protolabis coartatus	110194.25	(1)
Protolabis heterodontus	219695.99	(1)
Protomarcus optatus	11271.13	(1)
Protoreodon pacificus	34181.30	PBDB + regression
Protoreodon parvus	33051.65	PBDB + regression
Protoreodon pearcei	38169.88	PBDB + regression
Protoreodon petersoni	18828.04	PBDB + regression
Protoreodon pumilus	51870.94	PBDB + regression
Protoreodon walshi	59926.66	PBDB + regression
Protorohippus venticolus	14768.64	PBDB + regression
Protosciurus mengi	401.25	PBDB + regression
Protosciurus tecuyensis	478.19	(1)
Protoselene griphus	1619.16	PBDB + regression
Protoselene opisthacus	1703.86	PBDB + regression
Protospermophilus kelloggi	202.35	(1)
Protospermophilus malheurensis	103.54	(1)
Protospermophilus oregonensis	450.34	(1)
Protospermophilus quatalensis	273.14	(1)
Protospermophilus vortmani	230.44	(1)
Prototomus deimos	504.65	PBDB + regression
Prototomus martis	3573.98	PBDB + regression
Prototomus phobos	2691.73	PBDB + regression
Prototomus robustus	2434.13	PBDB + regression
Prototomus secundarius	1522.82	PBDB + regression
Protungulatum donnae	546.57	PBDB + regression
Protylopus annectens	14816.10	PBDB + regression
Protylopus pearsonensis	38366.65	PBDB + regression
Protylopus petersoni	18468.57	PBDB + regression
Protylopus robustus	17655.81	PBDB + regression
Protylopus stocki	15437.78	PBDB + regression
Proviverroides piercei	7343.84	PBDB + regression
Psolidocyon marianae	8777.97	(1)
Pseudaelurus aeluroides	31571.18	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
<i>Pseudaelurus intrepidus</i>	40945.61	(1)
<i>Pseudaelurus marshi</i>	33189.87	(1)
<i>Pseudaelurus stouti</i>	5767.53	(1)
<i>Pseudhipparion curtivallum</i>	58104.59	(1)
<i>Pseudhipparion gratum</i>	108012.26	(1)
<i>Pseudhipparion hessei</i>	75357.60	(1)
<i>Pseudhipparion retrusum</i>	86681.87	(1)
<i>Pseudhipparion simpsoni</i>	48050.12	(1)
<i>Pseudhipparion skinneri</i>	54176.36	(1)
<i>Pseudoblastomeryx advena</i>	10097.06	(1)
<i>Pseudoceras skinneri</i>	10938.02	(1)
<i>Pseudocylindrodon lateriviae</i>	101.65	PBDB + regression
<i>Pseudocylindrodon medius</i>	44.30	PBDB + regression
<i>Pseudocylindrodon neglectus</i>	88.57	PBDB + regression
<i>Pseudocylindrodon pintoensis</i>	194.89	MIOMAP
<i>Pseudodiplacodon progressum</i>	1263102.01	PBDB
<i>Pseudolabis dakotensis</i>	59874.14	(1)
<i>Pseudoparablastomeryx francescita</i>	4900.87	PBDB
<i>Pseudoparablastomeryx scotti</i>	5884.05	(1)
<i>Pseudoprotoceras longinaris</i>	35005.16	PBDB + regression
<i>Pseudoprotoceras minor</i>	19973.07	PBDB + regression
<i>Pseudotheridomys cuyamensis</i>	12.43	(1)
<i>Pseudotheridomys hesperus</i>	14.15	(1)
<i>Pseudotheridomys pagei</i>	8.17	(1)
<i>Pseudotomus californicus</i>	3660.37	PBDB + regression
<i>Pseudotomus eugenei</i>	14363.43	PBDB + regression
<i>Pseudotomus hians</i>	2299.39	PBDB
<i>Pseudotomus horribilis</i>	2971.99	(76)
<i>Pseudotomus johanniculi</i>	12241.50	PBDB + regression
<i>Pseudotomus littoralis</i>	2500.02	PBDB + regression
<i>Pseudotomus petersoni</i>	4209.29	(76)
<i>Pseudotomus robustus</i>	4052.00	PBDB + regression
<i>Pseudotrimylus mawbyi</i>	142.92	PBDB + regression
<i>Ptilodus fractus</i>	105.00	(7)
<i>Ptilodus gnomus</i>	87.78	PBDB + regression
<i>Ptilodus kummae</i>	208.28	PBDB + regression
<i>Ptilodus mediaevus</i>	311.46	PBDB + regression
<i>Ptilodus montanus</i>	373.57	PBDB + regression
<i>Ptilodus wyomingensis</i>	147.00	(7)
<i>Puercolestes simpsoni</i>	138.73	PBDB + regression
<i>Puma concolor</i>	48009.00	PBDB
<i>Puma lacustris</i>	17724.85	PBDB + regression
<i>Pyrocyon diictetus</i>	1834.56	PBDB + regression
<i>Quadratomus grandis</i>	1595.31	PBDB + regression
<i>Quadratomus grossus</i>	4624.34	PBDB + regression
<i>Quadrodens wilsoni</i>	46.06	(1)
<i>Rakomeryx sinclairi</i>	111301.72	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Rapamys fricki	1050.61	PBDB + regression
Raphictis gausion	261.58	PBDB + regression
Reithrodontomys galushai	10.39	PBDB + regression
Reithrodontomys rexroadensis	7.29	PBDB + regression
Reithrodontomys wetmorei	9.03	(1)
Reithroparamys debequensis	190.07	PBDB + regression
Reithroparamys delicatissimus	460.05	PBDB + regression
Reithroparamys huerfanensis	338.37	PBDB + regression
Reithroparamys sciuroides	482.77	(77)
Repomys arizonensis	54.13	PBDB + regression
Repomys gustelyi	81.45	(1)
Repomys maxumi	122.73	(1)
Repomys panacaensis	38.47	(1)
Rhizocyon oregonensis	3361.02	(1)
Rhynchotherium falconeri	54956347.86	PBDB + regression
Russellagus vonhofi	214.86	(1)
Sanctimus falkenbachi	151.41	(1)
Sanctimus stouti	120.30	(1)
Sanctimus stuartae	100.48	(1)
Satherium piscinarium	934.49	(1)
Saxonella naylori	45.48	PBDB + regression
Scalopoides isodens	32.14	(1)
Scalopoides ripafodiator	27.39	(1)
Scalopus aquaticus	39.60	PBDB
Scapanoscapter simplicidens	58.56	(1)
Scapanus hagermanensis	7.00	(4)
Scapanus latimanus	55.00	PBDB
Scapanus proceridens	65.37	(1)
Scapanus shultzi	97.00	(4)
Scapanus townsendii	141.58	(11)
Scaphohippus sumani	103960.05	PBDB
Scenopagus curticens	26.62	PBDB + regression
Scenopagus edenensis	72.22	PBDB + regression
Scenopagus priscus	17.36	PBDB + regression
Schaubeumys galbreathi	19.54	(78)
Schaubeumys grangeri	20.14	PBDB + regression
Schaubeumys sabrae	17.54	(39)
Schizodontomys amnicolus	111.05	(1)
Schizodontomys greeni	94.00	(4)
Schizodontomys harkseni	105.64	(1)
Sciuravus bridgeri	41.22	PBDB + regression
Sciuravus nitidus	167.14	PBDB + regression
Sciuravus popi	338.37	PBDB + regression
Sciuravus powayensis	88.57	PBDB + regression
Sciuravus wilsoni	84.39	PBDB + regression
Sciurion campestre	27.28	PBDB + regression
Sciurus carolinensis	518.00	PBDB
Continued on next page		

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Sciurus olsoni	22.73	PBDB
Scotimus exiguus	68.99	(31)
Scotimus longiquus	111.05	(1)
Scotimus lophatus	132.82	PBDB
Scotimus viduus	44.30	PBDB + regression
Selenaletes scopaeus	8232.01	PBDB + regression
Serbelodon barbourensis	11462314.59	(45)
Sespedectes singularis	28.30	PBDB + regression
Sespedectes stocki	23.37	PBDB + regression
Sespemys thurstoni	290.03	(1)
Sespia californica	3604.72	(1)
Sespia nitida	2394.82	(79)
Shoshonius bowni	142.24	PBDB + regression
Shoshonius cooperi	57.16	PBDB + regression
Sifhippus aemulor	6498.52	(80)
Sifhippus grangeri	11578.47	PBDB + regression
Sifhippus sandrae	10631.54	PBDB + regression
Sigmodon curtisi	92.85	PBDB + regression
Sigmodon hudspethensis	68.53	PBDB + regression
Sigmodon minor	52.98	(1)
Simidectes magnus	3787.93	PBDB + regression
Simidectes medius	2882.11	PBDB + regression
Simidectes merriami	6833.74	PBDB + regression
Similisciurus maxwelli	259.82	(1)
Simimeryx hudsoni	4171.22	PBDB + regression
Simimeryx minutus	1736.45	PBDB + regression
Simimys landeri	38.23	PBDB + regression
Simimys simplex	13.95	PBDB + regression
Simocyon primigenius	70000.00	NOW
Simojovelhyus pocitosense	19763.18	(38)
Simpsonictis pegus	245.14	PBDB + regression
Simpsonictis tenuis	126.87	PBDB + regression
Simpsonlemur citatus	171.00	(22)
Simpsonlemur jepsoni	121.00	(22)
Simpsonodus chacensis	1262.40	PBDB + regression
Sinclairiella dakotensis	139.74	PBDB + regression
Sinopa major	7566.66	PBDB + regression
Sinopa rapax	3299.38	PBDB + regression
Smilodectes gracilis	1035.64	PBDB + regression
Smilodectes mcgrewi	1212.97	PBDB + regression
Smilodectes sororis	935.37	PBDB + regression
Smilodon gracilis	57206.56	PBDB + regression
Sminthosinis bowleri	100.48	(1)
Sorex cinereus	3.80	PBDB
Sorex edwardsi	6.84	PBDB
Sorex hagermanensis	7.56	PBDB + regression
Sorex meltoni	3.46	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Sorex palustris	13.46	(11)
Sorex powersi	7.77	(1)
Sorex rexroadensis	8.00	(4)
Sorex yatkolai	4.91	PBDB
Spermophilus argonautus	131.63	(1)
Spermophilus bensoni	184.93	(1)
Spermophilus boothi	498.11	(45)
Spermophilus cragini	578.25	(1)
Spermophilus dottedi	270.43	(1)
Spermophilus fricki	231.96	(9)
Spermophilus gidleyi	700.00	(4)
Spermophilus howelli	139.77	(1)
Spermophilus jerae	87.36	(1)
Spermophilus matachicensis	220.52	PBDB + regression
Spermophilus matthewi	399.62	(81)
Spermophilus meadensis	100.48	(1)
Spermophilus rexroadensis	345.98	PBDB + regression
Spermophilus russelli	166.00	(4)
Spermophilus shotwelli	204.00	(4)
Spermophilus tephros	89.12	(1)
Spermophilus wellingtonensis	295.89	(1)
Spermophilus wilsoni	247.15	(1)
Sphacorhysis burntforkensis	40.09	PBDB + regression
Sphenophalos nevadanus	8789.20	PBDB
Spilogale microdens	1270.84	(60)
Spilogale putorius	341.19	(11)
Spilogale rexroadi	895.71	PBDB + regression
Stegomastodon mirificus	35283150.07	PBDB + regression
Steinius annectens	397.75	(82)
Steinius vespertinus	119.90	PBDB + regression
Stelocyon arctylus	2132.95	PBDB + regression
Stenoechinus tantalus	48.42	(1)
Stenomylus gracilis	44801.64	(1)
Stenomylus hitchcocki	38948.67	(1)
Stenomylus taylori	47980.97	PBDB
Sthenictis dolichops	665.14	(1)
Sthenictis junturensis	330.30	(1)
Stibarus montanus	1152.46	PBDB + regression
Stibarus obtusilobus	1416.00	PBDB + regression
Stibarus quadricuspis	2093.31	PBDB + regression
Stockia powayensis	161.34	PBDB + regression
Stratimus strobili	20.09	(1)
Strigorhysis bridgerensis	91.55	PBDB + regression
Strigorhysis huerfanensis	176.39	PBDB + regression
Stygmimys gratus	128.62	PBDB + regression
Stygmimys jepseni	84.00	(7)
Stygmimys kuszmauli	291.90	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Stylinodon mirus	47987.28	PBDB + regression
Subdromomeryx antilopinus	59874.14	(1)
Subhyracodon mitis	458341.99	(83)
Subhyracodon occidentalis	662391.44	PBDB + regression
Sunkahetanka geringensis	11158.98	(1)
Swaindelphys cifellii	24.57	PBDB
Symmetrodontomys simplicidens	26.84	(1)
Syndyoceras cooki	73865.41	(1)
Tachylagus gawneae	146.91	PBDB + regression
Taeniolabis taoensis	75621.27	PBDB + regression
Talpavoides dartoni	8.53	PBDB + regression
Talpavus conjunctus	45.48	PBDB + regression
Talpavus duplus	17.88	PBDB + regression
Talpavus nitidus	11.30	PBDB + regression
Tamias ateles	32.56	PBDB + regression
Tanymycter brachyodontus	102744.44	(1)
Tapiravus validus	64860.88	(1)
Tapirus simpsoni	369534.73	(1)
Tapochoerus egressus	9671.40	PBDB + regression
Tapochoerus mcmillini	4357.69	PBDB + regression
Tapocyon dawsonae	17454.68	PBDB + regression
Tapocyon robustus	21673.71	PBDB + regression
Tardontia nevadans	157.59	(1)
Tardontia occidentale	184.22	PBDB + regression
Tarka styliifera	3858.47	PBDB + regression
Tatmanius szalayi	46.59	(84)
Taxidea mexicana	10434.28	(85)
Taxidea taxus	7112.14	(11)
Tayassu protervus	45119.24	PBDB
Teilhardina americana	66.71	PBDB + regression
Teilhardina crassidens	57.16	PBDB + regression
Teleoceras meridianum	2022813.66	(1)
Teletaceras mortivallis	89575.08	PBDB + regression
Telmatherium altidens	2087486.17	PBDB + regression
Telmatherium cultridens	627910.03	PBDB + regression
Telmatherium manteoceras	478340.42	PBDB + regression
Temnocyon altigenis	32532.67	(1)
Temnocyon percussor	68871.66	(1)
Tenudomys bodei	43.38	(1)
Tenudomys macdonaldi	79.84	(1)
Tephrocyon rurestris	13095.19	(1)
Tetoniuss ambiguus	92.52	PBDB
Tetoniuss matthewi	107.32	PBDB + regression
Tetoniuss mckennai	57.16	PBDB + regression
Tetraclaenodon puercensis	9425.94	PBDB + regression
Tetrapassalus mckennai	5.04	PBDB
Texomys ritchiei	97.51	(1)

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Thinobadistes segnis	645890.00	(33)
Thinocyon velox	1924.12	PBDB + regression
Thinohyus lentus	101400.00	(4)
Thisbemys corrugatus	965.53	PBDB + regression
Thisbemys elachistos	140.29	PBDB + regression
Thisbemys perditus	587.96	PBDB + regression
Thisbemys uintensis	1777.64	PBDB + regression
Thomomys bottae	114.82	(11)
Thomomys carsonensis	29.87	PBDB + regression
Thomomys gidleyi	37.34	(1)
Thryptacodon antiquus	4110.15	PBDB + regression
Thryptacodon australis	2744.65	PBDB + regression
Thryptacodon orthogonius	1536.41	PBDB + regression
Thryptacodon pseudarctos	6070.61	PBDB + regression
Thylacaelurus campester	35.01	PBDB + regression
Thylacaelurus montanus	63.45	PBDB + regression
Thylacodon pusillus	48.28	PBDB + regression
Ticholeptus zygomanticus	106937.52	(1)
Tillodon fodiens	49838.54	PBDB + regression
Tillomys senex	84.39	PBDB + regression
Tinimomys graybulliensis	11.30	PBDB + regression
Tinimomys tribos	5.32	(86)
Titanoides gidleyi	48022.06	PBDB + regression
Titanoides nanus	37406.72	PBDB + regression
Titanoides primaevus	72645.54	PBDB + regression
Tomarctus brevirostris	17500.77	(1)
Tomarctus hippophaga	13766.59	(1)
Torrejonia sirokyi	440.75	PBDB + regression
Toxotherium hunteri	91951.16	PBDB + regression
Tregosorex holmani	26.84	(1)
Tremarctos floridanus	149968.48	(11)
Trigenicus profectus	28723.88	PBDB + regression
Trigonias osborni	599072.86	PBDB + regression
Trigonias yoderensis	264875.92	PBDB + regression
Trigonictis cookii	7397.01	PBDB + regression
Trigonictis macrodon	419.89	(1)
Triisodon quivirensis	22180.76	PBDB + regression
Trilaccogaulus ovatus	103.54	(1)
Triplopus cubitalis	34118.20	PBDB + regression
Triplopus implicatus	64570.33	PBDB + regression
Triplopus obliquidens	95152.03	PBDB + regression
Triplopus rhinocerinus	88700.44	PBDB
Triplopus woodi	69515.35	PBDB
Tritemnodon agilis	10780.00	(87)
Tritemnodon strenuus	4702.60	PBDB + regression
Trogolemur amplior	60.27	PBDB + regression
Trogolemur myodes	32.59	PBDB + regression

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Dataset S1 – continued from previous page

Species	Mass (g)	Source
Trogomys rupinimenthae	12.55	(1)
Trogosus castoridens	25945.98	PBDB + regression
Trogosus grangeri	42730.29	PBDB + regression
Trogosus latidens	86402.00	PBDB + regression
Tubulodon atopum	186.75	PBDB + regression
Tubulodon taylori	113.11	PBDB
Tuscahomys medius	84.22	PBDB
Tuscahomys minor	44.37	PBDB
Tylocephalonix skinneri	1696671.69	PBDB
Uintaceras radinskyi	516493.43	PBDB + regression
Uintacyon asodes	6096.02	PBDB + regression
Uintacyon masetericus	3203.72	PBDB + regression
Uintacyon rudis	1864.20	PBDB + regression
Uintanius ameghini	48.28	PBDB + regression
Uintanius rutherfordi	51.17	PBDB + regression
Uintasorex montezumicus	2.40	PBDB + regression
Uintasorex parvulus	6.11	PBDB + regression
Uintatherium anceps	523092.59	PBDB + regression
Untermannerix copiosus	121.51	(1)
Unuchinia dysmathes	114.44	PBDB
Uriscus californicus	130.13	PBDB + regression
Urocyon cinereoargenteus	3829.00	PBDB
Ursavus brevirohinus	80000.00	NOW
Ursavus pawniensis	61697.58	(1)
Ursavus primaevus	90000.00	NOW
Ursus abstrusus	43499.17	PBDB + regression
Ursus americanus	93431.00	PBDB
Utahia carina	17.88	PBDB + regression
Utahia kayi	37.51	PBDB + regression
Valenia wilsoni	279.17	PBDB + regression
Vassacyon promicrodon	5427.03	PBDB + regression
Viverravus acutus	483.44	PBDB + regression
Viverravus gracilis	849.04	PBDB + regression
Viverravus laytoni	241.14	PBDB + regression
Viverravus lutosus	602.46	PBDB + regression
Viverravus minutus	602.46	PBDB + regression
Viverravus politus	1009.45	PBDB + regression
Viverravus rosei	148.81	PBDB + regression
Viverravus sicarius	1594.41	PBDB + regression
Vulpavus australis	1746.94	PBDB + regression
Vulpavus palustris	2833.89	PBDB + regression
Vulpavus profectus	3388.44	(88)
Vulpes stenognathus	7331.97	(1)
Vulpes velox	2197.86	(11)
Washakius insignis	111.45	PBDB + regression
Washakius izetti	73.44	PBDB + regression
Washakius woodringi	48.28	PBDB + regression

Continued on next page

Dataset S1 – continued from previous page

Species	Mass (g)	Source
Wilsoneumys planidens	51.70	PBDB
Worlandia inusitata	73.44	PBDB + regression
Wyolestes apheles	1594.41	PBDB + regression
Wyolestes iglesius	1288.90	PBDB + regression
Wyonycteris chalice	8.61	PBDB + regression
Xenicohippus craspedotum	10895.00	(4)
Xenicohippus grangeri	12284.22	PBDB + regression
Ysengrinia americana	110194.25	(1)
Yumaceras figginsi	293607.76	(1)
Yumaceras hamiltoni	247706.54	(1)
Yumaceras ruminalis	314896.72	(1)
Zapus burti	21.33	(1)
Zapus rinker	27.28	PBDB + regression
Zapus sandersi	18.92	(1)
Zemiodontomys burkei	120.30	PBDB + regression
Zetamys nebraskensis	60.34	(1)

References

1. S. Tomiya, *The American Naturalist* **182**, 196 (2013).
2. J. A. Baskin, *Palaeontologia Electronica* **14**, 26A (2011).
3. M. R. Dawson, *Swiss Journal of Palaeontology* **131**, 11 (2012).
4. R. T. McKenna, Potential for Speciation in Mammals Following Vast , Late Miocene Volcanic Interruptions in the Pacific Northwest, Masters, Portland State University (2011).
5. B. Sorkin, *Lethaia* **41**, 333 (2008).
6. T. E. Williamson, S. L. Brusatte, T. D. Carr, A. Weil, B. R. Standhardt, *Journal of Systematic Palaeontology* **10**, 625 (2012).
7. G. P. Wilson, *et al.*, *Nature* **483**, 457 (2012).
8. L. B. Albright, *Biostratigraphy and Vertebrate Paleontology of the San Timoteo Badlands, Southern California* (University of California Press, Berkeley, 2000).
9. E. L. Simons, *Transactions of the American Philosophical Society* **50**, 3 (1960).
10. R. Stirton, *American Journal of Science* **24**, 46 (1932).
11. F. A. Smith, J. Brown, J. Haskell, S. Lyons, *The American Naturalist* **163**, 672 (2004).
12. R. Martin, H. Goodwin, J. Farlow, *Journal of Vertebrate Paleontology* **22**, 137 (2002).
13. P. Robinson, *Peabody Museum of Natural History Bulletin* **21**, 1 (1966).
14. J. W. Gidley, *Proceedings of the United States National Museum* **57**, 651 (1920).
15. E. C. Kirk, B. a. Williams, *Journal of human evolution* **61**, 156 (2011).

16. K. D. Rose, K. Kumar, R. S. Rana, A. Sahni, T. Smith, *Journal of Paleontology* **87**, 842 (2013).
17. W. A. Clemens, T. E. Williamson, *Journal of Vertebrate Paleontology* **25**, 208 (2005).
18. W. W. Dalquest, *Journal of Mammalogy* **59**, 269 (1978).
19. M. Cassiliano, *Rocky Mountain Geology* **43**, 41 (2008).
20. W. A. Clemens, *Palaeontologica Electronica* **14**, 22A (2011).
21. J. R. Macdonald, *Journal of Paleontology* **30**, 615 (1956).
22. C. Soligo, R. D. Martin, *Journal of human evolution* **50**, 414 (2006).
23. C. S. Scott, *Journal of Paleontology* **77**, 745 (2003).
24. E. R. Hall, *Journal of Mammalogy* **11**, 146 (1930).
25. M. C. Muhlbachler, N. Solounias, *Journal of Mammalian Evolution* **13**, 11 (2006).
26. O. Hay, *Proceedings of The United States National Museum* **44**, 569 (1969).
27. P. O. McGrew, *Geological Series of Field Museum of Natural History* **6**, 341 (1939).
28. C. Scott, *Canadian Journal of Earth Sciences* **41**, 237 (2004).
29. W. Sinclair, *Proceedings of the American Philosophical Society* **54**, 73 (1915).
30. B. MacFadden, *Paleobiology* **12**, 355 (1986).
31. M. J. Novacek, *PaleoBios* **24**, 1 (1977).
32. J.-P. Zonneveld, G. F. Gunnell, *Journal of Vertebrate Paleontology* **23**, 652 (2003).
33. H. McDonald, *Bulletin of the Florida Museum of Natural History* **45**, 313 (2005).
34. X. Wang, O. Carranza-Castañeda, J. J. Aranda-Gómez, *Journal of Systematic Palaeontology* **12**, 291 (2014).
35. R. H. Tedford, L. G. Barnes, C. E. Ray, *Proceedings of the San Diego Society of Natural History* **29**, 11 (1994).
36. W. B. Scott, G. L. Jepsen, A. E. Wood, *Transactions of the American Philosophical Society* **28**, 155 (1937).
37. F. Loomis, *Journal of Mammalogy* **13**, 358 (1932).
38. X. Wang, R. H. Tedford, B. E. Taylor, *Bulletin of the American Museum of Natural History* **243**, 2 (1999).
39. W. D. Matthew, *Bulletin of the American Museum of Natural History* **14**, 1 (1901).
40. Z. J. Tseng, J. K. O'Connor, X. Wang, D. R. Prothero, *Geodiversitas* **31**, 743 (2009).
41. C. S. Scott, D. N. Spivak, A. R. Sweet, H. Sues, *Canadian Journal of Earth Sciences* **50**, 355 (2013).
42. C. Stock, *Proceedings of the National Academy of Sciences* **23**, 48 (1937).
43. S. Zack, T. Penkrot, D. W. Krause, M. C. Maas, *Acta Palaeontologica Polonica* **50**, 809 (2005).
44. J. L. Wortman, C. Earle, *Bulletin of the American Museum of Natural History* **5**, 159 (1893).

45. R. Secord, *The Tiffanian Land-Mammal Age (Middle and Late Paleocene) in the Northern Bighorn Basin , Wyoming* (University of Michigan, 2008).
46. J. R. Macdonald, *Journal of Paleontology* **25**, 257 (1951).
47. O. Hay, *Bulletin of the University of Texas* **71**, 2 (1916).
48. Z. Johanson, *Journal of Paleontology* **70**, 1023 (1996).
49. K. D. Rose, S. G. B. Chester, R. H. Dunn, D. M. Boyer, J. I. Bloch, *American journal of physical anthropology* **146**, 281 (2011).
50. D. Kelley, A. Wood, *Journal of Paleontology* **28**, 337 (1954).
51. J. A. Baskin, *Journal of Vertebrate Paleontology* **24**, 709 (2004).
52. C. Stock, *Boletin de la Sociedad Geologica Mexicana* **13**, 69 (1948).
53. G. T. Mac Intyre, *Bulletin of the American Museum of Natural History* **131**, 115 (1966).
54. G. S. Bever, *The Southwestern Naturalist* **48**, 249 (2003).
55. T. H. Patton, B. E. Taylor, *Bulletin of the American Museum of Natural History* **150**, 347 (1973).
56. C. Grohé, *et al.*, *Die Naturwissenschaften* **97**, 1003 (2010).
57. B. W. Brook, D. M. J. S. Bowman, *Journal of Biogeography* **31**, 517 (2004).
58. C. T. Madden, J. E. Storer, *Canadian Journal of Earth Sciences* **22**, 1345 (1985).
59. J. A. Lillegraven, *Bulletin of the American Museum of Natural History* **158**, 223 (1977).
60. S. G. B. Chester, K. C. Beard, *Annals of Carnegie Museum* **80**, 159 (2012).
61. W. Korth, *Transactions of the Nebraska Academy of Sciences* **20**, 97 (1993).
62. B. E. Taylor, S. D. Webb, *American Museum Novitates* **2596**, 1 (1976).
63. G. L. Jepsen, *Proceedings of the American Ph* **71**, 255 (1932).
64. E. D. Cope, *Proceedings of the American Philosophical Society* **12**, 542 (1871).
65. A. Wood, *Transactions of the American Philosophical Society* **52**, 3 (1962).
66. R. Zakrzewski, *Journal of Mammalogy* **72**, 104 (1991).
67. R. C. Fox, C. S. Scott, *Journal of Paleontology* **85**, 537 (2011).
68. J. Lim, L. Martin, R. Wilson, *Journal of Paleontology* **75**, 1043 (2001).
69. J. S. Mellett, *American Museum Novitates* **2387**, 1 (1969).
70. J. Becker, J. White, *Journal of Vertebrate Paleontology* **1**, 211 (1981).
71. M. R. Dawson, K. C. Beard, *Annals of Carnegie Museum* **76**, 135 (2007).
72. C. A. L. Mora, A. L. V. Zamora, *Revista Geologica de America Central* **33**, 75 (2005).
73. C. L. Gazin, *Carnegie Institution of Washington* **404**, 55 (1930).
74. K. Rose, D. Krause, *Proceedings of the American Philosophical Society* **126**, 26 (1982).
75. M. C. Coombs, *Bulletin of the American Museum of Natural History* **164**, 1 (1979).
76. L. N. Carraway, *Western North American Naturalist* **70**, 144 (2010).

77. X. Wang, *Bulletin of the American Museum of Natural History* **221**, 1 (1994).
78. F. Loomis, *American Journal of Science* **31**, 65 (1911).
79. B. Van Valkenburgh, *Integrative and comparative biology* **47**, 147 (2007).
80. H. F. Osborn, *American Museum Novitates* **639**, 1 (1933).
81. B. Beatty, L. Martin, *PaleoBios* **29**, 29 (2009).
82. S. Strait, *Journal of Vertebrate Paleontology* **21**, 322 (2001).
83. W. B. Scott, G. L. Jepsen, *Transactions of the American Philosophical Society* **28**, 363 (1940).
84. I. Ferrusquía-Villafranca, *Journal of Vertebrate Paleontology* **26**, 989 (2006).
85. J. I. Bloch, M. T. Silcox, D. M. Boyer, E. J. Sargis, *Proceedings of the National Academy of Sciences of the United States of America* **104**, 1159 (2007).
86. M. F. Skinner, C. W. Hibbard, *Bulletin of the American Museum of Natural History* **148**, 1 (1972).
87. N. Egi, *Palaeontology* **44** (2001).
88. T. E. Williamson, S. L. Brusatte, *PloS one* **8**, e75886 (2013).