

## Appendix 2: Gear ratios in fossil carnivores.

Species	Family	Gear Ratio
<b>Friesenhahn Cave, Texas</b>		
Lat: 29.62, Lon: -98.37, Max age: 20,000, Min age: 10,000		
<i>Canis dirus</i>	Canidae	1.26
<i>Canis latrans</i>	Canidae	1.26
<i>Urocyon cinereoargenteus</i>	Canidae	1.25
<i>Homotherium serum</i>	Felidae	1.21
<i>Lynx rufus</i>	Felidae	1.37
<i>Smilodon fatalis</i>	Felidae	1.21
<i>Mephitis mephitis</i>	Mephitidae	1.22
<i>Procyon lotor</i>	Procyonidae	1.21
<i>Arctodus simus</i>	Ursidae	1.08
<i>Ursus americanus</i>	Ursidae	1.14
	Mean:	1.22
	StdDev:	0.077

## McKittrick, California

Lat: 35.32, Lon: -119.62, Max age: 40,000, Minage: 10,000

<i>Canis dirus</i>	Canidae	1.26
<i>Canis latrans</i>	Canidae	1.26
<i>Canis lupus</i>	Canidae	1.25
<i>Vulpes macrotis</i>	Canidae	1.29
<i>Lynx rufus</i>	Felidae	1.37
<i>Panthera atrox</i>	Felidae	1.33
<i>Puma concolor</i>	Felidae	1.36
<i>Smilodon fatalis</i>	Felidae	1.21
<i>Mephitis mephitis</i>	Mephitidae	1.22
<i>Spilogale putorius</i>	Mephitidae	1.22
<i>Mustela frenata</i>	Mustelidae	1.21
<i>Taxidea taxus</i>	Mustelidae	1.23
<i>Arctodus simus</i>	Ursidae	1.08
<i>Ursus americanus</i>	Ursidae	1.14
	Mean:	1.25
	StdDev:	0.079

## Anderson Pit, Indiana

Lat: -86.5, Lon: 39.0, Max age: 40,000, Min age: 10,000

<i>Urocyon cinereoargenteus</i>	Canidae	1.25
<i>Neovison vison</i>	Mustelidae	1.17
<i>Procyon lotor</i>	Procyonidae	1.21

<i>Ursus americanus</i>	Ursidae	1.14
	Mean:	1.19
	StdDev:	0.048

### Little Box Elder Cave, Wyoming

Lat: 42.62, Lon: -105.62, Max age: 24,000, Min age: 10,000

<i>Canis latrans</i>	Canidae	1.26
<i>Canis lupus</i>	Canidae	1.25
<i>Vulpes vulpes</i>	Canidae	1.27
<i>Lynx rufus</i>	Felidae	1.37
<i>Panthera atrox</i>	Felidae	1.33
<i>Puma concolor</i>	Felidae	1.36
<i>Mephitis mephitis</i>	Mephitidae	1.22
<i>Spilogale putorius</i>	Mephitidae	1.22
<i>Gulo gulo</i>	Mustelidae	1.21
<i>Mustela frenata</i>	Mustelidae	1.21
<i>Mustela nigripes</i>	Mustelidae	1.15
<i>Taxidea taxus</i>	Mustelidae	1.23
<i>Arctodus simus</i>	Ursidae	1.08
<i>Ursus arctos</i>	Ursidae	1.08
	Mean:	1.23
	StdDev:	0.088

### Brynjulfson Cave 1, Missouri

Lat: 38.85, Lon: -92.28, Max age: 34,600, Min age: 9,400

<i>Canis dirus</i>	Canidae	1.26
<i>Canis latrans</i>	Canidae	1.26
<i>Urocyon cinereoargenteus</i>	Canidae	1.25
<i>Vulpes vulpes</i>	Canidae	1.27
<i>Mephitis mephitis</i>	Mephitidae	1.22
<i>Spilogale putorius</i>	Mephitidae	1.22
<i>Lontra canadensis</i>	Mustelidae	1.25
<i>Martes pennanti</i>	Mustelidae	1.24
<i>Mustela frenata</i>	Mustelidae	1.21
<i>Neovison vison</i>	Mustelidae	1.17
<i>Procyon lotor</i>	Procyonidae	1.21
<i>Ursus americanus</i>	Ursidae	1.14
	Mean:	1.23
	StdDev:	0.039

### New Trout Cave, West Virginia

Lat: 38.60, Lon: -79.37, Max age: 31,100, Min age: 16,840

<i>Canis dirus</i>	Canidae	1.26
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<i>Canis latrans</i>	Canidae	1.26
<i>Vulpes vulpes</i>	Canidae	1.27
<i>Martes americana</i>	Mustelidae	1.25
<i>Martes pennanti</i>	Mustelidae	1.24
<i>Mustela erminea</i>	Mustelidae	1.15
<i>Mustela frenata</i>	Mustelidae	1.21
<i>Mustela nivalis</i>	Mustelidae	1.22
<i>Neovison vison</i>	Mustelidae	1.17
<i>Taxidea taxus</i>	Mustelidae	1.23
<i>Procyon lotor</i>	Procyonidae	1.21
<i>Ursus americanus</i>	Ursidae	1.14
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	Mean:	1.22
	StdDev:	0.044

### January Cave, Alberta

Lat: 50.19, Lon: -114.52, Max age: 35,000, Min age: 23,100

<i>Vulpes vulpes</i>	Canidae	1.27
<i>Martes americana</i>	Mustelidae	1.25
<i>Mustela erminea</i>	Mustelidae	1.15
<i>Mustela frenata</i>	Mustelidae	1.21
<i>Mustela nivalis</i>	Mustelidae	1.22
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	Mean:	1.22
	StdDev:	0.046