

## Dataset 1

<b>Projection mechanism</b>	<b>Animal</b>	<b>Common name</b>
Ballistic	Chameleon	Transvaal dwarf chameleon
	Chameleon	African chameleon
	Chameleon	Veiled chameleon
	Chameleon	Flap-necked chameleon
	Chameleon	Carpet chameleon
	Chameleon	Malagasy giant chameleon
	Chameleon	Panther chameleon
	Chameleon	Giant monkey-tailed chameleon
	Chameleon	West Usambara two-horned chameleon
	Chameleon	Matschie's dwarf chameleon
	Chameleon	Uthmöller's Chameleon
	Chameleon	Strange-horned chameleon
	Chameleon	Rosette-nosed chameleon
	Chameleon	Bearded leaf chameleon
	Chameleon	Crested chameleon
	Chameleon	Usambara three-horned chameleon
	Chameleon	von Höhnel's chameleon
	Chameleon	Jackson's chameleon
	Chameleon	Johnston's chameleon
	Chameleon	Meller's chameleon
	Chameleon	Owen's chameleon
	Chameleon	Four-horned chameleon
	Chameleon	Tranzanian Montane Dwarf chameleon
	Chameleon	Common chameleon
Inertial	Frog	Northern leopard frog
	Frog	Cane toad
	Frog	Cranwell's horned frog
	Toad	Yellow-bellied toad
	Frog	Argentine horned frog
Mechanical	Frog	Tailed frog
	Frog	Painted frog
	Frog	American green tree frog
	Anteater	Giant anteater
	Dog	Nigerian local dog
	Sun Bear	Sun bear
	Giraffe	Giraffe
	Horse	Horse
	Cat	Domestic cat
	Bat	Tube-lipped nectar bat
	Cat	Bobcat
	Cat	Snow leopard
	Cat	Tiger
	Cat	Cougar
	Cat	Lion

Coyote	Coyote
Dog	Great Dane
Raccoon	Raccoon
Otter	Giant otter
Fox	Fox
Mink	American mink
Rabbit	American rabbit
Rabbit	American rabbit
Rabbit	American rabbit
Ring tailed cat	Ring tailed cat
Hamster	Hamster
Hamster	Hamster
Rat	Laboratory rat
Rat	Laboratory rat
Squirrel	American red squirrel
Squirrel	American red squirrel
Deer	White-tailed deer
Ram	Ram
Pangolin	Pangolin
Cow	Cow - generic
Cow	Cow - Nelore breed
Cow	Cow - Taurine breed
Human	Human
Penguin	Penguin
Flamingo	Caribbean flamingo
Flamingo	Chilean flamingo
Donkey	Donkey
Opossum	Opossum
Pig	Pig

Scientific name	Body mass (kg)	stdev (kg)	L (mm)	stdev (mm)	ΔL (mm)
<i>Bradypodion transvaalense</i>	0.0034	0.0018	11.1	1.7	
<i>Chameleo africanus</i>	0.0483		28.5		
<i>Chameleo calyptratus</i>	0.0477	0.0101	29	2.4	
<i>Chameleo dilepis</i>	0.0233		31.9		
<i>Furcifer lateralis</i>	0.0152	0.0027	22.3	1	
<i>Furcifer oustaleti</i>	0.0213		32.8		
<i>Furcifer pardalis</i>	0.0523	0.0083	31.7	1.7	
<i>Kinyongia matschiei</i>	0.036	0.0089	29.4	2.3	
<i>Kinyongia multituberculata</i>	0.0156	0.0034	22.2	1.6	
<i>Kinyongia tenuis</i>	0.0036		17.1		
<i>Kinyongia uthmoelleri artytor</i>	0.0094		19.3		
<i>Kinyongia xenorhina</i>	0.0123		22.9		
<i>Rhampholeon spinosus</i>	0.0024		15.1		
<i>Rieppeleon brevicaudatus</i>	0.003	3.00E-04	15.3	0.4	
<i>Trioceros cristatus</i>	0.0133		31.8		
<i>Trioceros deremensis</i>	0.02843		39.2		
<i>Trioceros hoehnelii</i>	0.0048	0.0018	16	2.1	
<i>Trioceros jacksonii xantholophus</i>	0.0468	0.0082	29.8	1	29.8
<i>Trioceros johnstoni</i>	0.0325	0.0038	28	1.2	
<i>Trioceros melleri</i>	0.0837	0.0628	40.3	12	
<i>Trioceros perreti</i>	0.0073	0.0014	19.7	1.5	
<i>Trioceros q. quadricornis</i>	0.0021		16.5		
<i>Trioceros sternfeldi</i>	0.0145		20.7	1.7	
<i>Chamaeleo chamaeleon</i>	0.06				
<i>Lithobates Rana pipiens</i>	0.048	0.032	16.6		49
<i>Rhinella Bufo marina</i>	1		19.8		
<i>Ceratophrys cranwelli</i>	0.5		24.6		
<i>Bombina variegata</i>	0.008				
<i>Ceratophrys ornata</i>	0.45				
<i>Ascaphus truei</i>	0.01	0.005	5.8	0.8	
<i>Discoglossus pictus</i>	0.01	0.005	4		
<i>Hyla cinerea</i>	0.01	0.005	6	0.2	
<i>Myrmecophaga tridactyla</i>	21	20	600		
<i>Canis lupis familiaris</i>	14	4.44	142	22.9	122
<i>Helarctos malayanus</i>	53.5	26.5	225	25	
<i>Giraffa camelopardalis</i>	1192		450		212
<i>Equus ferus caballus</i>	690	309	160	40	96
<i>Felis catus</i>	4		35	4.2	37
<i>Anoura fistulata</i>	0.02	0.005	84.9		
<i>Lynx rufus</i>	10.5	1.6	55	5.5	
<i>Panthera uncia</i>	40		115		
<i>Panthera tigris</i>	116.3	25.6	171.8	23.2	268
<i>Puma concolor</i>	54		97		
<i>Panthera leo</i>	135		192		

Canis latrans	14	7	135		
Canis lupis familiaris	67.5	22.5	110		
Procyon lotor	6.25	2.75	82		
Pteronura brasiliensis	29	3	63		
Vulpes vulpes	8.1	5.9	90		
Neovison vison	1	0.6	50		
Oryctolagus cuniculus	1.2	0.8	48		
Oryctolagus cuniculus	1.2	0.8	48		
Oryctolagus cuniculus	1.2	0.8	40		
Bassaris astutus	1.1	0.4	52		
Cricetinae	0.031	0.014	16		
Cricetinae	0.031	0.014	18		
Rattus norvegicus	0.225	0.115	16		
Rattus norvegicus	0.225	0.115	15		
Tamiasciurus hudsonicus	0.5	0.1	30		
Tamiasciurus hudsonicus	0.5	0.1	28		
Odocoileus virginianus	56.5	11.5	90		53
Odocoileus virginianus	102.5	57.5	197.7	3.3	72
Pholidota	17.5	15.5	285	125	250
Bos taurus	906	181.5	450		160
Bos taurus indicus	450				
Bos taurus taurus	590				
Homo sapiens	62		100		
Aptenodytes fosteri	5				
Phoenicopterus ruber	2.5	0.3			
Phoenicopterus chilensis	3	0.5			
Equus asinus	220				
Didelphis marsupialis	4.5				
Sus scrofa	320				

Scale bar used	Papillae length (mm)	stdev (mm)	Tongue length L - Reference
Ruler in video		0.016	Anderson et al. (2012)
Ruler in video		0.02107	Noel et al. (2017)
		0.00685	Nishikawa and Cannatella (1991)
		0.02027	Nishikawa and Roth (1991)
			Deban and Nishikawa (1992)
Tongue width 40 mm			Naples (1999)
Wrist width is 30 mm			Igado (2011)
Wrist width 50 mm			Meijaard (1997)
Thumb in video is 20 mm	2.05		Emura et al. (2013)
		2.3	Pfeiffer et al. (2000)
		2.3	Reis et al. (2010)
Tongue width 75 mm	2.3		Muchhala (2006)
		2	In lab
		2.7	In lab
			In lab
			In lab
			In lab

			In lab
Wire net gap set at 70 mm		3.7	
Diameter of wood fence 50 mm			
Finger width 20 mm			
iphone 8 with width 67.3 mm			
	2.275	0.029	
	1.789	0.027	
	0.25		
	10		
	4	1	
	2.25	1.25	
	0.28		
	0.5		
	0.2		



In lab	In lab
<a href="https://www.youtube.com/watch?v=efYd0VHg_Qc">https://www.youtube.com/watch?v=efYd0VHg_Qc</a>	
<a href="https://www.youtube.com/watch?v=tTvB10GzjSc">https://www.youtube.com/watch?v=tTvB10GzjSc</a>	
<a href="https://www.youtube.com/watch?v=RRMtG5s4b4I">https://www.youtube.com/watch?v=RRMtG5s4b4I</a>	
	Verissimo et al. (2015)
	Verissimo et al. (2015)
	Lauga et al. (2016)
	Kobayashi et al. (1998)
	Zweers et al. (1995)
	Mascitti and Kravetz (2002)
	Abd-Elnaeim et al. (2002)
	Okada et al. (2005)
	Kumar and Bate (2004)

**Notes**

Mass taken from Wikipedia

Mass estimated from snout vent length (SVL)

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Mass average taken from Wikipedia

Mass average taken from theanimalfiles.com

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