

Ticks, Hair Loss, and Non-Clinging Babies: A Novel Tick-Based Hypothesis for the Evolutionary Divergence of Humans and Chimpanzees

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Supplementary file 1. Minimal night-time temperatures at multiple sites surrounding Lake Victoria (weatherspark.com)

Site	Country	Elevation (m)	Minimum Night-time Temperature Average/Range (°C)												Annual Lowest Night-time Temp (°C)
			Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Mbarara	Uganda	1420	15 (13–16)	15 (14–17)	15 (14–17)	15 (14–17)	15 (14–17)	15 (13–17)	15 (13–16)	15 (13–16)	15 (13–16)	15 (13–16)	15 (14–16)	15 (14–16)	13
Kampala	Uganda	1192	18 (16–19)	18 (16–20)	18 (17–20)	19 (17–20)	18 (17–20)	18 (16–19)	17 (16–18)	17 (16–18)	17 (16–18)	17 (16–19)	18 (16–19)	18 (16–19)	16
Mbale	Uganda	1130	18 (16–19)	18 (16–20)	18 (17–20)	18 (17–20)	18 (16–19)	17 (15–19)	17 (15–18)	17 (15–18)	17 (15–19)	17 (16–19)	17 (15–19)	17 (15–19)	15
Bungoma	Kenya	1422	15 (13–17)	15 (14–17)	16 (14–18)	16 (15–17)	16 (14–17)	15 (13–16)	15 (13–16)	15 (13–16)	15 (13–16)	15 (14–17)	15 (14–17)	15 (14–17)	13
Kakamega	Kenya	1526	15 (13–17)	15 (13–17)	16 (14–17)	16 (14–17)	15 (14–17)	15 (13–16)	14 (13–16)	14 (13–16)	14 (13–16)	15 (13–16)	15 (14–16)	15 (13–17)	13
Migori	Kenya	1438	16 (14–17)	16 (14–17)	16 (14–18)	16 (14–17)	15 (14–17)	15 (13–16)	15 (13–16)	15 (13–16)	15 (14–17)	16 (14–17)	16 (14–17)	16 (14–17)	13
Musoma	Tanzania	1150	20 (18–21)	20 (18–21)	20 (19–22)	20 (18–21)	19 (18–21)	19 (17–20)	18 (16–20)	19 (17–20)	19 (18–21)	19 (18–21)	19 (18–21)	19 (18–21)	16
Mwanza	Tanzania	1181	19 (17–20)	19 (17–21)	19 (18–21)	19 (18–21)	18 (16–20)	17 (15–19)	17 (15–19)	18 (15–20)	19 (16–20)	19 (18–21)	19 (18–21)	19 (17–20)	15
Shinyanga	Tanzania	1132	16 (14–18)	16 (14–18)	17 (15–19)	17 (15–19)	16 (14–19)	15 (13–18)	15 (12–17)	16 (13–18)	17 (14–19)	18 (15–20)	18 (16–20)	17 (15–19)	12
Ushirombo	Tanzania	1197	16 (14–18)	16 (15–18)	17 (15–19)	17 (16–19)	17 (14–19)	15 (12–18)	15 (12–17)	16 (13–18)	17 (14–19)	17 (15–19)	17 (15–19)	16 (15–18)	12
Bukoba	Tanzania	1197	18 (16–20)	18 (17–20)	19 (17–21)	19 (17–21)	19 (17–20)	18 (16–20)	17 (16–19)	18 (16–19)	18 (16–19)	18 (17–19)	18 (17–20)	18 (17–20)	16
Nsunga	Tanzania	1202	16 (14–17)	16 (14–18)	16 (15–18)	17 (15–18)	16 (14–18)	16 (14–18)	15 (14–17)	16 (14–17)	16 (14–17)	16 (14–17)	16 (15–18)	16 (14–17)	14

Supplementary file 2. Grooming time (% daily activity) in arboreal versus terrestrial primates

Species	Common Name	Grooming Time (% Daily Activity)	Average Grooming Time (% Daily Activity)
Arboreal			
Orangutans†			
<i>Pongo pygmaeus</i>	Bornean orangutan	0.01 ¹	Orangutans
<i>Pongo abelii</i>	Sumatran orangutan	0.01 ¹	
		0.02/2 =	0.01
New World Monkeys			
<i>Saguinus mystax</i>	Moustached tamarin	1.85 ¹	New World Monkeys
<i>Cebus olivaceus</i>	Wedge-capped capuchin	1.9 ¹	
<i>Cebus apella</i>	Tufted capuchin	1.21 ¹	
<i>Cebus albifrons</i>	White-fronted capuchin	0.615 ¹	
<i>Callicebus torquatus</i>	Collared titi	9.9 ¹	
<i>Callicebus oenanthe</i>	Rio Mayo titi	4.5 ¹	
<i>Chiropotes satanas</i>	Black bearded saki	0.4 ¹	
<i>Pithecia pithecia</i>	White-faced saki	0.8 ¹	
<i>Cacajao calvus</i>	Bald uakari	1.8 ¹	
<i>Alouatta palliata</i>	Mantled howler monkey	0 ¹	
<i>Alouatta seniculus</i>	Venezuelan red howler	0.4 ¹	
<i>Alouatta guariba</i>	Brown howler	2.6 ¹	
<i>Alouatta caraya</i>	Black howler	1.2 ¹	
<i>Ateles geoffroyi</i>	Black-handed spider monkey	2.5 ¹	
<i>Ateles belzebuth</i>	White-bellied spider monkey	0.1 ¹	
<i>Brachyteles hypoxanthus</i>	Northern miriqui	0 ¹	
		29.8/16 =	1.9
Gibbons/Siamangs			
<i>Hylobates lar</i>	Lar gibbon	4.4 ¹	

<i>Hylobates klossii</i>	Kloss's gibbon	0 ¹	Gibbons/ Siamangs
<i>Hylobates agilis</i>	Agile gibbon	0 ¹	
<i>Hylobates pileatus</i>	Pileated gibbon	5 ¹	
<i>Symphalangus syndactylus</i>	Siamang	10 ¹	
		19.4/5 =	3.9

Arboreal Old World Monkeys

<i>Presbytis siamensis</i>	White-thighed surili	0 ¹
<i>Presbytis potenziani</i>	Mentawai langur	0.1 ¹
<i>Presbytis rubicunda</i>	Maroon leaf monkey	0 ¹
<i>Presbytis thomasi</i>	Thomas's langur	1.3 ¹
<i>Trachypithecus pileatus</i>	Capped langur	0.4 ¹
<i>Rhinopithecus avunculus</i>	Tonkin snub-nosed monkey	5.6 ¹
<i>Nasalis larvatus</i>	Proboscis monkey	2.8 ¹
<i>Pygathrix nigripes</i>	Black-shanked douc	2.25 ¹
<i>Pygathrix nemaeus</i>	Red-shanked douc	1.78 ¹
<i>Colobus guereza</i>	Mantled guereza	6.2 ¹
<i>Colobus satanas</i>	Black colobus	5.5 ¹
<i>Colobus polykomos</i>	King colobus	0.7 ¹
<i>Colobus angolensis</i>	Angola colobus	5 ¹
<i>Colobus vellerosus</i>	Ursine colobus	1 ¹
<i>Piliocolobus rufomitrat</i>	Tana River red colobus monkey	2.1 ¹
<i>Piliocolobus badius</i>	Western red colobus	5.4 ¹
<i>Piliocolobus kirkii</i>	Zanzibar red colobus	7 ¹
<i>Piliocolobus tephrosceles</i>	Ugandan red colobus	5.2 ¹
<i>Procolobus verus</i>	Olive colobus	3.6 ¹
<i>Cercopithecus mitis</i>	Blue monkey	8 ¹
<i>Cercopithecus ascanius</i>	Red-tailed monkey	5.6 ¹
<i>Cercopithecus campbelli</i>	Campbell's mona monkey	2.8 ¹
<i>Cercopithecus diana</i>	Diana monkey	2.5 ¹

	<i>Chlorocebus djamdjamensis</i>	Bale monkey	2.7 ¹	Arboreal Old World Monkeys
	<i>Lophocebus albigena</i>	Grey-cheeked mangabey	5.2 ¹	
	<i>Cercocebus galeritus</i>	Tana river mangabey	5.5 ¹	
	<i>Macaca fascicularis</i>	Crab-eating macaque	10.6 ¹	
				98.8/27 = 3.7
	Arboreal Lemurs			
	<i>Avahi laniger</i>	Eastern wooly lemur	2 ¹	Arboreal Lemurs
	<i>Eulemur fulvus</i>	Common brown lemur	8.3 ¹	
	<i>Propithecus verreauxi</i>	Verreaux's sifaka	2 ¹	
Terrestrial				
	Chimpanzees†			
	<i>Pan paniscus</i>	Bonobo	5.7 ¹	Chimpanzees
	<i>Pan troglodytes</i>	Common chimpanzee	9.8 ¹	
			15.5/2 = 7.8	
	Terrestrial Old World Monkeys			
	<i>Trachypithecus leucocephalus</i>	White-headed langur	11.5 ¹	
	<i>Trachypithecus francoisi</i>	François' langur	1.2 ¹	
	<i>Semnopithecus achates</i>	Southern plains gray langur	6 ¹	
	<i>Semnopithecus entellus</i>	Gray langur	6 ¹	
	<i>Semnopithecus cf. schistaceus</i>	Nepal gray langur	8.4 ¹	
	<i>Rhinopithecus bieti</i>	Black snub-nosed monkey	6.7 ¹	
	<i>Chlorocebus aethiops</i>	Vervet monkey	6.8 ¹	

	<i>Erythrocebus patas</i>	Patas monkey	4.53 ¹	Terrestrial Old World Monkeys
	<i>Macaca fuscata</i>	Japanese macaque	18 ¹	
	<i>Macaca mulatta</i>	Rhesus macaque	6.6 ¹	
	<i>Macaca munzala</i>	Arunachal macaque	12 ¹	
	<i>Theropithecus gelada</i>	Gelada	17.4 ¹	
	<i>Papio anubis</i>	Olive baboon	7.1 ¹	
	<i>Papio papio</i>	Guinea baboon	8.3 ¹	
	<i>Papio hamadryas</i>	Hamadryas baboon	13.5 ¹	
	<i>Papio ursinus</i>	Chacma baboon	12.8 ¹	
			146.8/16 =	9.2
Terrestrial Lemurs				
Terrestrial Lemurs				
	<i>Lemur Catta</i>	Ring-tailed Lemur	7.8¹/1 =	7.8
Gorillas†				
	<i>Gorilla gorilla</i>	Western gorilla	0.1 ¹	Gorillas
	<i>Gorilla beringei</i>	Eastern gorilla	2.5 ¹	
			2.6/2 =	1.3
Humans†‡				
Humans				
	<i>Homo sapiens</i>	Human	0.8²/1 =	0.8

†Hominid. ‡Hominin.

1 Grueter, C.C., et al. (2013, Ref. 220).

2 Jaeggi, A.V., et al. (2017, Ref. 221).