Supporting Information

Cerling et al. 10.1073/pnas.1222571110

Table S1. Stable isotope results ($\delta^{13}C$ and $\delta^{18}O$) for *Theropithecus* from Kenya

Sample	Taxon	Element	Formation	Member	Region	$\delta^{13}C$	% C_4	$\delta^{18}O$
KNM-OG 354	*T. oswaldi*	m-frag	Olorgesailie			1.8	100	2.8
KNM-ER 602 B	*T. oswaldi*	rt M3	Koobi Fora	Okote	Area 6	0.7	90	−1.8
KNM-ER 611	*T. oswaldi*	rt m3	Koobi Fora	Okote	Area I	0.9	95	−1.0
KNM-ER 615	*T. oswaldi*	rt M2 or M3	Koobi Fora	Upper Burgi	Area 131	−2.4	70	1.1
KNM-ER 856	*T. oswaldi*	rt M3	Koobi Fora	Okote	Area 1	0.1	90	2.1
KNM-OG 1243	*T. oswaldi*	rt M3	Olorgesailie			1.7	100	4.6
KNM-ER 1526 A	*T. oswaldi*	rt m2	Koobi Fora	Upper Burgi	Area 130	−0.3	85	1.1
KNM-ER 1531	*T. oswaldi*	lt M3	Koobi Fora	KBS	Area 123	−0.8	80	1.3
KNM-ER 1537	*T. oswaldi*	lt M2	Koobi Fora	Upper Burgi	Area 105	0.4	90	1.4
KNM-ER 1566	*T. brumpti*	lt p3	Koobi Fora	Tulu Bor	Area 204	−7.2	35	1.4
KNM-OG 1825	*T. oswaldi*	m-frag	Olorgesailie			1.5	100	2.6
KNM-ER 2002	*T. oswaldi*	rt p4	Koobi Fora	Upper Burgi	Area 131	−1.9	75	0.5
KNM-ER 2015	*T. brumpti*	rt p3	Koobi Fora	Tulu Bor	Area 204	−4.2	60	−1.6
KNM-ER 3013	*T. brumpti*	lt m3	Koobi Fora	Tulu Bor	Area 204	−3.0	65	0.8
KNM-ER 3022 F	*T. brumpti*	m-frag	Koobi Fora	Tulu Bor	Area 203	−3.2	65	0.4
KNM-ER 3025	*T. darti*	rt M3	Koobi Fora	Tulu Bor	Area 117	−2.5	70	−0.4
KNM-ER 3026	*T. brumpti*	lt m1	Koobi Fora	Lokochot	Area 117	−2.3	70	−1.3
KNM-ER 3053	*T. brumpti*	lt M2	Koobi Fora	Lokochot	Area 117	−3.6	60	−0.9
KNM-ER 3070	*T. oswaldi*	lt M2	Koobi Fora	Upper Burgi	Area 131	−0.9	80	0.7
KNM-ER 3115	*T. brumpti*	lt p3	Koobi Fora	Lokochot	Area 117	−3.4	65	−2.6
KNM-ER 3775	*T. brumpti*	rt M2	Koobi Fora	Lokochot	Area 117	−4.9	55	−2.3
KNM-ER 3775	*T. brumpti*	rt M3	Koobi Fora	Lokochot	Area 117	−3.1	65	−1.4
KNM-ER 3780	*T. brumpti*	lt p3	Koobi Fora	Lokochot	Area 117	−1.0	80	0.0
KNM-ER 3814	*T. oswaldi*	lt m3	Koobi Fora	Upper Burgi	Area 115	−2.5	70	2.4
KNM-ER 3832	*T. oswaldi*	lt M3	Koobi Fora	Upper Burgi	Area 115	−1.1	80	−0.4
KNM-ER 3872	*T. oswaldi*	lt p4	Koobi Fora	Upper Burgi	Area 131	−0.9	80	−1.1
KNM-ER 4985	*T. brumpti*	rt m3	Koobi Fora	Tulu Bor	Area 203	−5.7	45	2.2
KNM-ER 5317	*T. oswaldi*	lt m3	Koobi Fora	Upper Burgi	Area 131	0.1	90	−2.3
KNM-ER 6007 A	*T. oswaldi*	rt m3	Koobi Fora	Okote	Area 3	−0.3	85	1.6
KNM-WT 16895	*T. brumpti*	rt p3	Nachukui	Lower Lomekwi		−1.6	75	−1.5
KNM-WT 17560	*T. brumpti*	rt m3	Nachukui	Middle Lomekwi	LO9	−2.4	70	−1.3
KNM-ER 20441	*T. brumpti*	m-frag	Koobi Fora	Lonyumon	Area 261–1A	−3.5	65	0.0
KNM-ER 30384	*T. brumpti*	lt m3	Koobi Fora	Lokochot	Area 206	−4.2	55	−2.1
KNM-ER 38567	*T. oswaldi*	lt m3	Koobi Fora	KBS	Area 123	−3.0	65	1.9
KNM-ER 38572	*T. oswaldi*	lt m3	Koobi Fora	KBS	Area 123	−1.0	80	0.0
KNM-ER 38573	*T. oswaldi*	lt m2	Koobi Fora	KBS	Area 123	−0.7	80	0.8
KNM-ER 38581	*T. oswaldi*	lt M2	Koobi Fora	KBS	Area 123	−1.9	75	1.6
KNM-ER 38583	*T. oswaldi*	lt m3	Koobi Fora	KBS	Area 123	−2.7	70	1.9
KNM-ER 40066	*T. oswaldi*	lt p4	Koobi Fora	KBS	Area 123	−3.0	65	2.7
KNM-ER 40068	*T. oswaldi*	lt m2	Koobi Fora	KBS	Area 123	−0.8	80	1.4
KNM-ER 40429	*T. oswaldi*	lt m1	Koobi Fora	KBS/Okote	Area 103	−1.9	75	0.8
KNM-ER 40431	*T. oswaldi*	rt m3	Koobi Fora	Okote	Area 8	−1.2	80	2.4
KNM-WT 52911	*T. oswaldi*	rt m3	Nachukui	Nariokotome		2.4	100	−2.2
KNM-WT 53078	*T. oswaldi*	rt M1	Nachukui	Nariokotome		−0.6	80	−1.3
Field num F20206	*T. oswaldi*	m2	Koobi Fora	Okote	Area 40	−1.0	80	0.4

The estimated percentage of C_4 is based on the nominal end member values for C_3 and C_4 plants, and it is rounded to the nearest 5% to indicate the uncertainty in the true dietary estimate. Estimated ages (1) are Olorgesailie (1.0 Ma), Koobi Fora (Lonymon: 4.0 Ma; Lokochot: 3.5 Ma; Tulu Bor: 3.2 Ma, U Burgi: 1.95 Ma; KBS: 1.8 Ma, Okote: 1.5 Ma), and Nachukui (Lower Lomekwi: 3.0 Ma; Middle Lomekwi: 3.0 Ma; Nariokotome: 1.2 Ma). KBS, Kay Behrensmeyer Site; lt, left; m-frag, molar fragment; rt, right.

1. McDougall I, et al. (2012) New single crystal $^{40}Ar/^{39}Ar$ ages improve time scale for deposition of the Omo Group, Omo – Turkana Basin, East Africa. *J Geol Soc London* 169(2):213–226.

Table S2. $\delta^{13}C$ data from feces collected from two baboon groups over a *ca*. 3-wk period in the Amboseli region, Kenya

Identification	Sex	Date collected	$\delta^{13}C$	Age (y)	Group average
Group 1.1					
DRU	F	January 31, 2004	−23.9	2.2	
SEB	M	February 8, 2004	−23.2	2.3	
SEB	M	February 13, 2004	−19.9	2.3	Preadult
COO	M	February 8, 2004	−24.8	2.4	Average
COO	M	February 13, 2004	−21.8	2.4	−22.3 ± 1.8
CRU	M	January 22, 2004	−22.7	3.5	$n = 10$
NAW	M	January 31, 2004	−21.9	6.4	
FIG	M	January 31, 2004	−19.0	6.6	
FIG	M	February 13, 2004	−23.4	6.6	
HON	F	February 13, 2004	−22.0	6.8	
FLA	F	February 13, 2004	−23.9	8.3	
DUX	F	February 13, 2004	−22.2	8.4	Adult
COB	F	February 13, 2004	−22.8	8.7	Average
HOL	F	January 31, 2004	−23.2	10.1	−22.6 ± 1.1
HOL	F	February 13, 2004	−23.7	10.1	$n = 7$
FAC	F	January 31, 2004	−22.0	11.1	
DUD	F	January 31, 2004	−20.7	20.6	
Group 1.2					
RAN	F	January 24, 2004	−25.2	2.6	
RAN	F	February 12, 2004	−21.3	2.6	Preadult
YAI	F	January 20, 2004	−25.3	3.3	Average
EVA	F	January 24, 2004	−25.4	3.6	−24.5 ± 1.6
VEX	F	January 24, 2004	−24.5	5.4	$n = 6$
VIG	F	January 24, 2004	−25.2	5.6	
VAP	M	January 24, 2004	−25.1	7.1	Adult
VAA	F	January 24, 2004	−25.1	9.0	Average
VOT	F	January 24, 2004	−23.8	9.3	−24.3 ± 1.0
VET	F	January 24, 2004	−23.2	11.0	$n = 4$

Different individuals are identified by a three-letter code; groups 1.1 and 1.2 are fully wild and part of the long-term behavior study of the Amboseli Baboon Research Project. Each group is subdivided into preadult [tooth enamel is in the formation and maturation stages (ages = 2–7 y)] and adult [tooth enamel is complete and all molars have erupted (age > 7 y)]; no infants (age < 2 y) are considered in this analysis.