

DATA REPOSITORY ITEM # TABLE DR1. $\delta^{13}\text{C}$ VALUES OF MODERN HERBIVORE TEETH FROM ETHIOPIA

		Sample ID	Treated	$\delta^{13}\text{C}$ (VPDB)	$\delta^{18}\text{O}$ (VPDB)	Tooth position ^f	Location	
Cercopithecidae	<i>Cercopithecus aethiops</i>	ET05-AA-M152	Yes	-14.3	6.1	lm2	Bulbula	
		ET05-AA-M151	Yes	-14.0	5.4	IM	Bulbula	
		ET05-AA-M299	Yes	-13.4	3.8	M	Bulbula	
		ET05-AA-M191	Yes	-12.3	2.6	rm2	Debre Zehir	
	<i>Cercopithecus neglectus</i>	ET05-AA-M146	Yes	-16.5	0.2	IM2	Godare	
		<i>Papio hamadryas</i>	LS-1	No	-6.4	-0.6	rM3	Awash NP
	LS-2		No	-12.1	1.1	rM3	Awash NP	
	LS-3		No	-11.8	-0.2	rM3	Awash NP	
	<i>Papio anubis</i>	GON04M-88	Yes	-12.1	0.6	rm3	Gona	
		GON06NL-03	Yes	-11.9	1.9	m2	Gona	
		GON06NL-03	Yes	-12.0	2.2	m3	Gona	
		ET05-BM-09	Yes	-14.1	-1.3	rM3	Bale NP	
		ET05-MAGO-02	No	-14.0	-0.3	rM3	Mago NP	
		ET05-NCHSR-08	Yes	-14.5	3.9	IM2	Nechisar NP	
		ET05-NCHSR-14	No	-11.0	-1.5	IM3	Nechisar NP	
		ET05-NCHSR-14	Yes	-13.2	1.3	P	Nechisar NP	
		ET05-SMN-06	Yes	-10.2	1.4	M3	Simien NP	
		Equidae	<i>Equus burchelli</i>	ET05-NCHSR-23	Yes	0.9	3.8	c
	ET05-NCHSR-22			Yes	0.9	6.3	lm1	Nechisar NP
	ET05-NCHSR-19		Yes	0.3	5.9	lm2	Nechisar NP	
ET05-NCHSR-18	Yes		0.7	5.4	rm2	Nechisar NP		
ET05-NCHSR-21	Yes		0.7	6.3	rm2	Nechisar NP		
ET05-NCHSR-18	Yes		1.8	6.6	rm3	Nechisar NP		
ET05-NCHSR-17	Yes		1.1	6.1	IM3	Nechisar NP		
ET05-NCHSR-22	Yes		0.9	4.7	rl2	Nechisar NP		
ET05-NCHSR-19	Yes		0.7	5.7	rM2	Nechisar NP		
ET05-NCHSR-20	Yes		1.1	6.1	rM2	Nechisar NP		
ET05-NCHSR-17	Yes		0.0	5.8	rM3	Nechisar NP		
ET05-NCHSR-22	Yes		1.3	5.2	rP2	Nechisar NP		
ET05-NCHSR-18	Yes		0.9	6.0	rP3	Nechisar NP		
ET05-NCHSR-20	Yes		1.2	7.1	rP3	Nechisar NP		
ET05-NCHSR-21	Yes		0.0	5.1	rP3	Nechisar NP		
<i>Equus grevyi</i>	ET05-AWSH-33		Yes	-0.5	7.9	IM1	Alledeghi	
	ET05-AWSH-33		Yes	-0.2	5.8	IM3	Alledeghi	
	ET05-AWSH-32		Yes	-1.2	8.0	p1	Awash NP	
	ET05-AWSH-30		Yes	-0.1	9.0	rM1	Awash NP	
	ET05-AWSH-31		Yes	0.3	6.9	rP3	Awash NP	
Giraffidae	<i>Giraffa camelopardalis</i>	ET05-MAGO-03	Yes	-9.4	6.7	IM3	Mago NP	
Hippopotamidae	<i>Hippopotamus amphibius</i>	ET05-AWSH-29	Yes	-3.2	0.3	lm2	Awash NP	
		ET05-AWSH-28	Yes	-4.1	0.9	rm1	Awash NP	
		ET05-AWSH-27	Yes	-7.0	-0.2	rM1	Awash NP	
		ET05-AWSH-28	Yes	-3.6	-0.5	rM1	Awash NP	
		ET05-AWSH-29	Yes	-2.9	0.7	rM1	Awash NP	
		ET05-NCHSR-04	Yes	-3.3	2.4	lm3	Nechisar NP	
		ET05-NCHSR-05	Yes	-7.9	2.3	rm1	Nechisar NP	
		ET05-NCHSR-01	Yes	-2.4	3.3	rm2	Nechisar NP	
		ET05-NCHSR-06	Yes	-5.0	2.3	rm2	Nechisar NP	
		ET05-NCHSR-07	Yes	-4.0	1.6	rm3	Nechisar NP	
		ET05-NCHSR-03	Yes	-4.1	3.3	IM1	Nechisar NP	
		ET05-NCHSR-02	Yes	-1.8	3.4	rM3	Nechisar NP	
		Elephantidae	<i>Loxodonta africana</i>	ET05-MAGO-10	Yes	-9.0	2.0	m
ET05-MAGO-17	Yes			-11.0	-0.7	m	Mago NP	
ET05-MAGO-19	Yes			-9.8	2.6	m	Mago NP	
Suidae	<i>Phacochoerus</i> sp.	ET05-AWSH-40	Yes	-3.9	4.0	P	Awash NP	
		ET05-AWSH-36	Yes	-0.4	3.5	m	Awash NP	
		ET05-AWSH-16	Yes	-0.6	1.9	M3	Awash NP	
		ET05-AWSH-16	Yes	-1.0	2.1	M2	Awash NP	
		ET05-BALE-07	Yes	-9.3	-0.4	c	Bale NP	
		ET05-BALE-06	No	-7.0	-0.9	ldm2	Bale NP	
		ET05-BALE-16	Yes	-10.8	0.0	M3	Bale NP	
		ET05-BM-105	Yes	-6.5	-0.6	rM3	Bale NP	

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		Sample ID	Treated	$\delta^{13}\text{C}$ (VPDB)	$\delta^{18}\text{O}$ [*] (VPDB)	Tooth position [†]	Location
Suidae (contd.)	<i>Phacochoerus</i> sp. (contd.)	GON04M-20	Yes	-0.3	3.9	m3	Gona
		GON07-33	Yes	-4.1	-4.5	rm3	Gona
		GON04M-59	Yes	-3.2	-2.5	m	Gona
		GON04M-79	Yes	2.2	0.6	m	Gona
		GON06NL-06	No	-1.1	0.6	M2	Gona
		GON06NL-09	No	-3.7	3.9	M2	Gona
		GON04M-28	Yes	-5.6	-0.2	M3	Gona
		GON05-435	Yes	-0.7	1.2	M3	Gona
		GON06NL-06	Yes	-0.8	1.1	M3	Gona
		GON06NL-09	No	-2.1	4.0	M3	Gona
		GON06NL-10	Yes	-1.0	2.4	M3	Gona
		GON07-10	Yes	-2.1	4.3	M3	Gona
		GON07-58	Yes	-0.5	1.8	M3 frag	Gona
		GON07-33	Yes	-1.0	5.7	rM3	Gona
		ET05-MAGO-28	Yes	-5.0	1.6	c	Mago NP
		ET05-MAGO-06	Yes	-3.5	2.9	IM3	Mago NP
		ET05-NCHSR-15	Yes	-13.3	2.6	IM3	Nechisar NP
		ET05-NCHSR-13	Yes	-2.0	-1.6	M3	Nechisar NP
		ET05-NCHSR-15	Yes	-13.0	2.3	rM3	Nechisar NP
		ET05-SMN-18	Yes	-14.8	0.2	m	Simien NP

Notes: VPDB is an abbreviation for the isotopic standard Vienna Pee Dee Belemnite.

* $\delta^{18}\text{O}_{\text{enamel}}$ values were calculated from $\delta^{18}\text{O}$ values of CO_2 produced by the enamel- H_3PO_4 reaction using a temperature dependent acid fractionation factor (1.008 at 90°C) for modern teeth calculated based on the regressions in Passey, B.H., Cerling, T.E., and Levin, N.E., 2007, Temperature dependence of oxygen isotope acid fractionation for modern and fossil tooth enamels: Rapid Communications in Mass Spectrometry, v 21, p. 2853-2859.

†Abbreviations for tooth position are as follows: r, right; l, left; m, molar; p, premolar; I, incisor; c, canine; d, deciduous. Uppercase and lowercase letters refer to the maxillary and mandibular teeth, respectively.

DATA REPOSITORY ITEM # TABLE DR2. $\delta^{13}\text{C}$ VALUES OF FOSSIL HERBIVORE TEETH FROM GONA, ETHIOPIA

		Sample ID	$\delta^{13}\text{C}$ (VPDB)	$1\sigma^+$	$\delta^{18}\text{O}^+$ (VPDB)	1σ	Treated	Tooth position ^S	Formation	Member or Association	Site		
Bovidae	Aepycerotini	GONBULK-063	-11.4	0.1	-6.5	0.3	Yes	IM2	Sagantole	As Duma	GWM1		
		GONBULK-066	-3.3		-8.1		Yes	rM(3?)	Sagantole	As Duma	GWM1		
		GONBULK-049	-4.2		-3.3		Yes	IM(1/2?)	Sagantole	Segala Noumou	GWM3		
		GONBULK-076	-0.3		-6.9		Yes	rM3	Sagantole	As Duma	GWM9		
		GONBULK-080	-4.5		-8.5		Yes	rM2(/1)	Sagantole	As Duma	GWM9		
			WM9.P28	-4.6		-6.1		Yes	M3	Sagantole	As Duma	GWM9	
		Antilopini	ESC1.P17	-6.6		0.3		No	rm(1/2?)	Adu-Asa	Kobo'o Tephra	ESC1	
		Bovidae gen. indet.	ESC2.P183	-7.2		-5.3		No	rm3	Adu-Asa	Kobo'o Tephra	ESC2	
			GONBULK-095	1.5	0.3	3.1	0.3	Yes	rm3	Sagantole	As Duma	GWM26	
			GONBULK-051	-0.9		-2.9		Yes	m frag	Sagantole	Segala Noumou	GWM3	
			GONBULK-052	-0.6	0.2	-2.1	0.1	Yes	m(2/3?)	Sagantole	Segala Noumou	GWM3	
			GONBULK-146	-1.1		1.0		Yes	rm3	Sagantole	Segala Noumou	GWM31	
			WMS13.P7	-0.3		-1.0		Yes	IM	Sagantole	GWMS	GWMS13	
			WMS15.P3	-1.6		-5.2		Yes	M3	Sagantole	GWMS	GWMS15	
			WMS6.P10	0.1		-0.6		Yes	rM(2/3?)	Sagantole	GWMS	GWMS6	
			WMS7.P31	-3.9		-4.9		Yes	rM3	Sagantole	GWMS	GWMS7	
		Bovini	WM5M.P9	-2.3		-7.4		Yes	M3	Sagantole	As Duma	GWMS5	
			GONBULK-083	-3.9	0.2	2.7	0.1	Yes	IM(1/2?)	Sagantole	As Duma	GWM9	
			GONBULK-127	-5.4		2.7		Yes	p(3/4?)	Sagantole	As Duma	GWM9	
			WMS7.P7	-4.0		-4.2		No	M3	Sagantole	GWMS	GWMS7	
		cf. Bovini	WMS8.P20	-5.5		-7.9		Yes	m	Sagantole	GWMS	GWMS8	
		cf. Hippotragini	ESC2.P41	-10.2		-7.3		Yes	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
		cf. Reduncini	ESC2.P237	-5.4		-5.8		No	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
		cf. <i>Tragelaphus</i>	ESC2.P19	-15.7	0.1	-5.6	0.0	No	--	Adu-Asa	Kobo'o Tephra	ESC2	
			ESC2.P26	-11.6		-4.4		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC2	
		Reduncini	WM30.P25	-1.5	0.0	-2.9	0.5	No	--	Sagantole	Segala Noumou	GWMS30	
			WMS6.P9	0.0		-7.2		No	IM	Sagantole	GWMS	GWMS6	
		<i>Tragelaphus</i> sp.	ESC2.P78	-2.9		-0.5		No	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
			ESC2.P43	-1.5		-5.8		Yes	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
			WM1.P20	-8.1		-4.7		Yes	M3	Sagantole	As Duma	GWM1	
			WM10W.P38	-9.3		-7.4		No	IM3	Sagantole	GWMS10/11	GWM10	
			WM3.P154	-8.6	0.1	-4.4	0.6	No	--	Sagantole	Segala Noumou	GWM3	
			WM3.P58	-8.6		-3.6		Yes	m3	Sagantole	Segala Noumou	GWM3	
			GONBULK-142	-9.3		-6.7		Yes	IM3	Sagantole	Segala Noumou	GWM31	
			WM5M.P52	-3.5		-7.4		Yes	M3	Sagantole	As Duma	GWMS5	
			GONBULK-118	-0.1		0.1		Yes	m2	Sagantole	As Duma	GWMS5	
			WM5SW.P33	-11.0	0.0	-6.4	0.2	Yes	--	Sagantole	As Duma	GWMS5	
			WM5SW.P40	-3.4		-6.2		Yes	M3	Sagantole	As Duma	GWMS5	
			GONBULK-089	-8.4	0.1	-4.7	0.2	Yes	rM3	Sagantole	As Duma	GWM9	
			GONBULK-090	-9.9	0.2	-2.2	0.4	Yes	--	Sagantole	As Duma	GWM9	
			GONBULK-140	-4.3	0.1	-3.8	0.1	Yes	rm3	Sagantole	As Duma	GWM9	
			WM9.P34	-9.1	0.5	-4.8	0.2	Yes	--	Sagantole	As Duma	GWM9	
			GONBULK-110	-10.5	0.8	-7.3	0.6	Yes	m2	Sagantole	As Duma	GWM9	
			WMS11.P17	-9.0	0.0	-4.9	0.3	No	--	Sagantole	GWMS	GWMS11	
			WMS13.P3	-7.4		-7.3		No	IM	Sagantole	GWMS	GWMS13	
			WMS16.P3	-0.7		-0.5		No	M3	Sagantole	GWMS	GWMS16	
			WMS6.P78	-1.7		0.4		No	M3	Sagantole	GWMS	GWMS6	
			WMS7.P56	-8.1	0.0	-5.3	0.1	No	--	Sagantole	GWMS	GWMS7	
			WMS7.P2	-5.2		-6.2		Yes	M3	Sagantole	GWMS	GWMS7	
	Equidae	<i>Eurygnathohippus</i> cf. <i>feibeli</i>	ABD2.P1	-0.2		-5.7		Yes	rM3	Adu-Asa	below Sifi Tephra	ABD2	
BDL1.P3			-0.6		-4.9		Yes	rM2	Adu-Asa	above Sifi Tephra	BDL1		
ESC2.304			-0.4		-3.2		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC2		
ESC2.P36			-0.8		-4.2		Yes	Im3	Adu-Asa	Kobo'o Tephra	ESC2		
ESC2.P47			-0.9		-5.9		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC2		
ESC2.P6			-1.0		-7.0		Yes	IM3	Adu-Asa	Kobo'o Tephra	ESC2		
ESC3.P20			0.1		-5.0		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC3		
HMD2.P2			-1.4		-4.8		Yes	IM3	Adu-Asa	Sifi Tuff	HMD2		
			<i>Eurygnathohippus</i> sp.	GONBULK-112	-6.4	0.2	-7.6	0.2	Yes	p/m	Sagantole	As Duma	GWM1

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		Sample ID	$\delta^{13}\text{C}$ (VPDB)	1σ	$\delta^{18}\text{O}$ (VPDB)	1σ	Treated	Tooth position ^S	Formation	Member or Association	Site		
Equidae contd.	<i>Eurygnathohippus</i> sp. contd.	WM1.P11	1.4		2.6		Yes	rM3	Sagantole	As Duma	GWM1		
		GONBULK-100	-0.6	0.1	-5.2	0.1	Yes	IP(2/3?)	Sagantole	As Duma	GWM1		
		WM11.P9	-1.2		-1.3		Yes	M3	Sagantole	Sifi Area	GWM11		
		GONBULK-154	-1.0	0.3	0.2	0.2	Yes	--	Sagantole	Segala Noumou	GWM30		
		GONBULK-148	-0.4	0.1	4.0	0.1	Yes	P4/M1	Sagantole	Segala Noumou	GWM31		
		WM33.P1	-3.0		-4.3		Yes	m3	Sagantole	Segala Noumou	GWM33		
		GONBULK-134	-5.7	0.2	-6.8	0.2	Yes	p/m	Sagantole	As Duma	GWM5		
		GONBULK-125	-0.8		-6.0		Yes	IM(1/2?)	Sagantole	As Duma	GWM9		
		WMS3.P2	0.7		-1.5		Yes	rm3	Sagantole	GWMS	GWMS3		
		WMS6.P5	-0.1		-5.2		Yes	M/P	Sagantole	GWMS	GWMS6		
		WMS6.P94	0.8		-5.3		Yes	rM3	Sagantole	GWMS	GWMS6		
		WMS7.P33	0.6		-3.6		Yes	IM	Sagantole	GWMS	GWMS7		
		Giraffidae	cf. <i>Sivatherium</i>	GONBULK-131	-1.4	0.3	-5.7	0.1	Yes	rM2	Sagantole	As Duma	GWM27
				WMS8.P14	-9.3		-6.1		Yes	P	Sagantole	GWMS	GWMS8
		Giraffidae	gen. indet.	ESC1.P15	-11.6		-6.7		Yes	P	Adu-Asa	Kobo'o Tephra	ESC1
ESC3.P8	-10.2				-4.6		Yes	M fragment	Adu-Asa	Kobo'o Tephra	ESC3		
Hippopotamidae	<i>Sivatherium</i> sp.	WM9N.P305	-11.1		2.8		Yes	M	Sagantole	As Duma	GWM9		
		WM45.P34	-8.9		-7.3		Yes	P	Sagantole	GW45/46	GWM45		
		ESC2.P244	0.6		-7.1		Yes	M	Adu-Asa	Kobo'o Tephra	ESC2		
		ESC2.P9	-3.4		-8.1		Yes	m	Adu-Asa	Kobo'o Tephra	ESC2		
		ESC3.P19	-0.5		-8.1		Yes	M fragment	Adu-Asa	Kobo'o Tephra	ESC3		
		ESC3.P33	-4.6		-5.6		Yes	rm1	Adu-Asa	Kobo'o Tephra	ESC3		
		GONBULK-053	-5.1	0.1	-11.4	0.3	Yes	m(2/3?)	Sagantole	As Duma	GWM2		
		GONBULK-068	-3.4	0.2	-9.9	0.5	Yes	p	Sagantole	As Duma	GWM2		
		GONBULK-072	0.3	0.1	-7.4	0.1	Yes	M2	Sagantole	As Duma	GWM2		
		GONBULK-152	-1.7	0.2	-7.0	0.0	Yes	M1	Sagantole	Segala Noumou	GWM30		
		GONBULK-150	-6.3	0.1	-4.0	0.1	Yes	dm	Sagantole	Segala Noumou	GWM31		
		GONBULK-151	-6.4	0.1	-4.2	0.1	Yes	P	Sagantole	Segala Noumou	GWM31		
		GONBULK-097	-0.5	0.1	-7.4	0.2	Yes	lm3	Sagantole	As Duma	GWM5		
		GONBULK-120	-0.5	0.0	-8.4	0.5	Yes	m(2/3?)	Sagantole	As Duma	GWM5		
		GONBULK-087	-0.4	0.0	-8.5	0.1	Yes	--	Sagantole	As Duma	GWM9		
Cercopithecidae	<i>Kuseracolobus aramisi</i>	GONBULK-123	-2.2		-9.1		Yes	P	Sagantole	As Duma	GWM9		
		WMS6.P17	-4.4		-9.1		Yes	LM(1/2?)	Sagantole	GWMS	GWMS6		
		WM1.P98	-8.8		-6.1		No	m3	Sagantole	As Duma	GWM1		
		WM27.P32	-7.5		-5.3		No	m3	Sagantole	As Duma	GWM27		
		WM34.P11	-10.7		-3.0		No	IM3	Sagantole	Segala Noumou	GWM34		
		WM5M.P126	-8.9		-7.8		No	M3	Sagantole	As Duma	GWM5		
		WM9M.P13	-11.3		-3.5		No	lm3	Sagantole	As Duma	GWM9		
		<i>Pliopapio alemui</i>	WM1S.P100	-5.5		-6.9		No	rM3	Sagantole	As Duma	GWM1	
			WM3W.P127	-6.6		-2.5		No	rm3	Sagantole	Segala Noumou	GWM3	
			WM3W.P183	-7.3		-4.7		No	lm3	Sagantole	Segala Noumou	GWM3	
			WM5M.P125	-9.1		-4.2		No	m3	Sagantole	As Duma	GWM5	
			WM5SW.P153	-8.4		-6.0		No	m3	Sagantole	As Duma	GWM5	
			WM5SW.P221	-7.6		-3.8		No	lm3	Sagantole	As Duma	GWM5	
			WM9M.P133	-6.9		-6.6		No	m3	Sagantole	As Duma	GWM9	
			Proboscidea	<i>Anancus</i> sp.	ESC1.P21B	0.7	0.0	-8.0	0.4	Yes	--	Adu-Asa	Kobo'o Tephra
ESC1.P10	0.8				-7.7		Yes	M3	Adu-Asa	Kobo'o Tephra	ESC1		
GONBULK-055	-2.2	0.2			-6.8	0.2	Yes	M	Sagantole	As Duma	GWM2		
GONBULK-056	-2.1	0.0			-6.8	0.5	Yes	M	Sagantole	As Duma	GWM2		
GONBULK-059	-1.7				-6.6		Yes	M	Sagantole	As Duma	GWM2		
GONBULK-060	-1.9				-6.6		Yes	M	Sagantole	As Duma	GWM2		
GONBULK-071	-1.7	0.1			-6.6	0.4	Yes	M	Sagantole	As Duma	GWM2		
GONBULK-133	-1.3				-6.5		Yes	M	Sagantole	As Duma	GWM2		
GONBULK-153	0.1				-1.9		Yes	M	Sagantole	Segala Noumou	GWM30		
GONBULK-155	-1.4	0.2			-4.1	0.1	Yes	--	Sagantole	Segala Noumou	GWM30		
GONBULK-086	-1.3				-4.0		Yes	M	Sagantole	As Duma	GWM9		
GONBULK-064	-11.9	0.1			-8.2	0.4	Yes	M	Sagantole	As Duma	GWM1		
<i>Deinotherium</i> sp.	BDL2.P18	-2.5				-6.5		Yes	M3	Adu-Asa	above Sifi Tephra	BDL2	
	ESC6.P1	0.1				-3.0		Yes	M3	Adu-Asa	Kobo'o Tephra	ESC6	
Proboscidea	gen. indet.	GONBULK-065			-2.4		-2.9		Yes	M	Sagantole	As Duma	GWM1

DATA REPOSITORY ITEM # TABLE DR.2. $\delta^{13}\text{C}$ VALUES OF FOSSIL HERBIVORE TEETH FROM GONA, ETHIOPIA

		Sample ID	$\delta^{13}\text{C}$ (VPDB)	1σ	$\delta^{18}\text{O}$ (VPDB)	1σ	Treated	Tooth position ^S	Formation	Member or Association	Site	
Proboscidea contd.	Proboscidea gen. indet.	GONBULK-094	-1.8		-3.0		Yes	M frag	Sagantole	As Duma	GWM1	
		GONBULK-073	-3.3		-7.7		Yes	M frag	Sagantole	As Duma	GWM2	
		GONBULK-129	-3.2	0.1	-7.6	0.5	Yes	M	Sagantole	As Duma	GWM2	
		GONBULK-050	-0.2		-3.4		Yes	M3	Sagantole	Segala Noumou	GWM3	
		GONBULK-115	-2.7	0.2	-6.6	0.4	Yes	M frag	Sagantole	Segala Noumou	GWM3	
		GONBULK-147	-3.3		-1.9		Yes	Im3	Sagantole	Segala Noumou	GWM31	
Rhinocerotidae	cf. <i>Diceros praecox</i>	WMS11.P12	-10.2		-7.6		Yes	M	Sagantole	GWMS	GWMS11	
	Rhinocerotidae gen. indet.	GONBULK-061	-0.8	0.1	-8.2	0.5	Yes	M/P	Sagantole	As Duma	GWM2	
		GONBULK-107	0.6	0.0	-3.3	0.4	Yes	rM3	Sagantole	As Duma	GWM27	
		GONBULK-070	-6.3	0.4	-6.1	0.3	Yes	m/p	Sagantole	As Duma	GWM28	
		GONBULK-074	0.3	0.0	-0.4	0.0	Yes	maxillary	Sagantole	Segala Noumou	GWM3	
		GONBULK-143	1.2	0.2	2.2	0.2	Yes	rM2	Sagantole	Segala Noumou	GWM31	
GONBULK-144	-7.1		-7.4		Yes	Im3	Sagantole	Segala Noumou	GWM31			
Suidae	<i>Nyanzachoerus syrticus</i>	ESC2.P31	-9.0		-4.5		No	M2	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P272	-11.2		-8.7		Yes	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P273	-9.5		-6.2		Yes	rM3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P275	-9.1		-6.2		Yes	IM3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P28	-10.6		-6.9		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P73	-9.5		-5.6		Yes	m3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P109	-9.2		-8.4		Yes	rm3	Adu-Asa	Kobo'o Tephra	ESC2	
		ESC2.P186	-5.9	0.3	-6.1	0.1	Yes	--	Adu-Asa	Kobo'o Tephra	ESC2	
		<i>Kolpochoerus deheinzelini</i>	WM10W.P33	-6.8		-7.5		No	rM3	Sagantole	GWM10/11	GWM10
			WM10W.P80	-9.2		-10.2		Yes	M3	Sagantole	GWM10/11	GWM10
	GONBULK-121		-6.6	0.0	-5.4	0.0	Yes	rM3	Sagantole	Segala Noumou	GWM29	
	WM31.P21		-4.2		-3.5		Yes	Im3	Sagantole	Segala Noumou	GWM31	
	GONBULK-091		-4.4		-5.9		Yes	--	Sagantole	As Duma	GWM9	
	GONBULK-113		-3.5	0.1	-6.1	0.1	Yes	rm2/3	Sagantole	As Duma	GWM9	
	WMS7.P26		-9.1		-8.5		Yes	Im3	Sagantole	GWMS	GWMS7	
	GONBULK-096		-0.9		-4.3		Yes	rM3	Sagantole	As Duma	GWM1	
	WM1.P21		-0.6		-5.1		Yes	rm3	Sagantole	As Duma	GWM1	
	WM1s.P109		-0.2		-4.3		Yes	rM3	Sagantole	As Duma	GWM1	
	<i>Nyanzachoerus jaegeri</i>	WM10.P45	-3.7		-8.7		Yes	rm3	Sagantole	GWM10/11	GWM10	
		GONBULK-103	-0.7	0.0	-7.9	0.2	Yes	M3	Sagantole	As Duma	GWM2	
		GONBULK-062	-1.9	0.1	-7.8	0.7	Yes	M3	Sagantole	As Duma	GWM28	
		GONBULK-069	-2.1		-7.4		Yes	M3	Sagantole	As Duma	GWM28	
		GONBULK-141	-6.1		-5.3		Yes	Im3	Sagantole	Segala Noumou	GWM3	
		WM3.P4	-3.1	0.1	-4.8	0.0	Yes	--	Sagantole	Segala Noumou	GWM3	
		GONBULK-145	-0.4		-2.0		Yes	M3	Sagantole	Segala Noumou	GWM31	
		WM46.P1	-2.8		-6.8		No	m3	Sagantole	GWM45/46	GWM46	
		WM5M.P183	-0.4		-5.3		Yes	Im3	Sagantole	As Duma	GWM5	
		WM5M.P64	-0.9		-5.3		Yes	rM3	Sagantole	As Duma	GWM5	
		GONBULK-077	-0.8		-7.6		Yes	Im3	Sagantole	As Duma	GWM9	
		GONBULK-079	-0.6		-5.8		Yes	M3	Sagantole	As Duma	GWM9	
		GONBULK-081	-0.8	0.0	-6.9	0.2	Yes	Im3	Sagantole	As Duma	GWM9	
		GONBULK-085	-0.7		-7.4		Yes	Im3	Sagantole	As Duma	GWM9	
		GONBULK-102	-0.6		-8.8		Yes	LM3	Sagantole	As Duma	GWM9	
		GONBULK-122	-0.3		-4.1		Yes	M3	Sagantole	As Duma	GWM9	
		WMS7.P1	-2.3	0.4	-5.3	0.3	No	--	Sagantole	GWMS	GWMS6	
	<i>Ny. cf. jaegeri</i>	WM27.P2	-3.0	0.3	-3.2	1.3	Yes	rm3	Sagantole	As Duma	GWM27	
		GONBULK-149	-0.2		0.2		Yes	m3	Sagantole	Segala Noumou	GWM31	
	<i>Nyanzachoerus kanamensis</i>	WM18.P1	-3.4		-0.7		Yes	rm3	Sagantole	Unassigned	GWM18	
		WM30.P22	-1.2		-6.2		Yes	Im2/3	Sagantole	Segala Noumou	GWM30	
		WMS3.P3	-0.5		-4.5		Yes	Im3	Sagantole	GWMS	GWMS3	
		WMS7.P14	0.4		-5.3		Yes	rM3	Sagantole	GWMS	GWMS7	
	<i>Ny.cf. kanamensis</i>	WMS6.P23	-0.7		-6.4		Yes	Im3	Sagantole	GWMS	GWMS6	
		WMS7.P72	-0.9		-4.9		Yes	IM3	Sagantole	GWMS	GWMS7	
		WM10.P21	-0.5		-8.5		Yes	rm3	Sagantole	GWM10/11	GWM10	
		WM5SW.P43	-4.3		-6.0		Yes	IM3	Sagantole	As Duma	GWM5	
	<i>Nyanzachoerus sp.</i>	ESC2.P32	-8.6		-8.5		No	M(1/2?)	Adu-Asa	Kobo'o Tephra	ESC2	
		WM45.P23	-1.7		-6.5		Yes	rM3	Sagantole	GWM45/46	GWM45	

DATA REPOSITORY ITEM # TABLE DR2. $\delta^{13}\text{C}$ VALUES OF FOSSIL HERBIVORE TEETH FROM GONA, ETHIOPIA

		Sample ID	$\delta^{13}\text{C}$ (VPDB)	1σ [*] $\delta^{18}\text{O}$ [†] (VPDB)	1σ Treated	Tooth position [§]	Formation	Member or Association	Site
Suidae contd.	<i>Nyanzachoerus</i> sp. contd.	WM45.P24	-0.8	-6.7	Yes	rM3	Sagantole	GWM45/46	GWM45
		GONBULK-075	-2.0	-6.6	Yes	P	Sagantole	As Duma	GWM9
		WMS14.P1	-4.3	-4.7	Yes	rM3	Sagantole	GWMS	GWMS14
		WMS7.P71	-1.5	-6.2	Yes	Im3	Sagantole	GWMS	GWMS7

Notes: VPDB is an abbreviation for the isotopic standard Vienna Pee Dee Belemnite.

*Averages and standard deviations (1σ) are reported for powders analyzed multiple times.

[†] $\delta^{18}\text{O}_{\text{enamel}}$ values were calculated from $\delta^{18}\text{O}$ values of CO_2 produced by the enamel- H_3PO_4 reaction using a temperature dependent acid fractionation factor for fossil teeth (1.00725 at 90°C and 1.00887 at 50°C) calculated using regressions in Passey, B.H., Cerling, T.E., and Levin, N.E., 2007, Temperature dependence of oxygen isotope acid fractionation for modern and fossil tooth enamels: Rapid Communications in Mass Spectrometry, v 21, p. 2853-2859.

[§]Abbreviations for tooth position are as follows: r, right; l, left; m, molar; p, premolar; I, incisor; c, canine; d, deciduous. Uppercase and lowercase letters refer to the maxillary and mandibular teeth, respectively. If tooth position is unknown the field is left blank.

DATA REPOSITORY ITEM # TABLE DR3. $\delta^{13}\text{C}$ VALUES OF PEDOGENIC CARBONATES FROM THE SAGANTOLE FORMATION

Sample	Association	$\delta^{13}\text{C}^*$ (VPDB)	1 σ	$\delta^{18}\text{O}^*$ (VPDB)	1 σ	Number of Nodules	Data source
GONJQ-132 [†]	Segala Noumou Member	-3.9	--	-4.8	--	1	Levin et al. 2004; Semaw et al. 2005
GONJQ-145	Segala Noumou Member	-6.8	2.5	-9.2	4.3	3	Levin et al. 2004; Semaw et al. 2005
GONJQ-146 [§]	Segala Noumou Member	-6.8	--	-3.9	--	1	Levin et al. 2004; Semaw et al. 2005
GONJQ-238	Segala Noumou Member	-9.5	0.6	-5.0	0.5	3	Levin et al. 2004; Semaw et al. 2005
GONJQ-239	Segala Noumou Member	-8.7	0.0	-5.8	0.5	2	Levin et al. 2004; Semaw et al. 2005
GONJQ-239 [§]	Segala Noumou Member	-8.1	0.4	-7.8	0.4	3	Levin et al. 2004; Semaw et al. 2005
GONJQ-240	Segala Noumou Member	-7.8	0.2	-11.9	1.1	4	Levin et al. 2004; Semaw et al. 2005
GONJQ-241	Segala Noumou Member	-8.3	0.8	-10.9	1.2	4	Levin et al. 2004; Semaw et al. 2005
GONJQ-242	Segala Noumou Member	-10.4	0.9	-10.9	0.2	5	Levin et al. 2004; Semaw et al. 2005
GONJQ-243	Segala Noumou Member	-6.9	0.2	-8.8	0.5	5	Levin et al. 2004; Semaw et al. 2005
GONJQ-244	Segala Noumou Member	-8.0	2.7	-11.0	0.3	6	Levin et al. 2004; Semaw et al. 2005
GONJQ-245	Segala Noumou Member	-9.5	0.7	-11.6	0.1	7	Levin et al. 2004; Semaw et al. 2005
GONJQ-246 [†]	Segala Noumou Member	-6.9	--	-9.7	--	1	Levin et al. 2004; Semaw et al. 2005
GONJQ-247 [†]	Segala Noumou Member	-7.5	0.2	-8.2	0.3	6	Levin et al. 2004; Semaw et al. 2005
GONJQ-248 [†]	Segala Noumou Member	-5.8	1.0	-7.1	0.6	6	Levin et al. 2004; Semaw et al. 2005
WM00-5-4	Segala Noumou Member	-6.5	0.5	-9.1	0.7	5	Levin et al. 2004; Semaw et al. 2005
WM00-5-5	Segala Noumou Member	-6.6	0.4	-4.0	0.7	6	Levin et al. 2004; Semaw et al. 2005
GONNL-029	GWM-45 locality	-6.5	0.1	-6.8	0.6	3	This study
GONNL-038	GWMS area	-6.1	0.4	-7.8	1.1	3	This study
GONNL-045	GWMS area	-5.0	0.3	-6.4	0.4	3	This study
GONNL-040	GWMS area	-4.3	0.1	-3.2	0.2	3	This study
GONNL-046	GWMS area	-6.7	0.6	-8.1	0.3	3	This study

Notes: VPDB is an abbreviation for the isotopic standard Pee Dee Belemnite.

*Averages, standard deviations and number of $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ values are reported for multiple analyses.

[†]Nodules from paleosols within 2km and in section with the GWM3 hominid locality.

[§]Carbonate rhizoliths found in same pedogenic context as nodules.