

**S1 Table. List of specimens used in the present study.**

Provenance	Site	Specimen ID	n	Tooth type	Catalogue ID	Geometric morphometrics	Paleo-proteomics	Curator
China	Ganxian	GX6002, GXB6005, GXI007, GX010, GX3012	5	Lower molar	GX-6002, GX-B6005, GX-I007, GX-010, GX-3012	GX6002, GXB6005, GXI007, GX010, GX3012		<a href="mailto:wangw@sdu.edu.cn">wangw@sdu.edu.cn</a>
China	Chinese Apothecary Collection	CA260, CA805, CA806, CA807	4	Lower molar	CA 260, CA 805, CA806, CA 807	CA260, CA805, CA806, CA807		ottmar.kullmer@senckenberg.de
Vietnam	Tham Om	75TO17, 75TO22, 77TO9bv49, 77TOo1335, 77TOo1428, 77TOo7bv38, 77TOo930, 77TOv0139	8	Lower molar	75.TO.17, 75.TO.22, 77.TO.9b.v.49, 77.TO.o.13.35, 77.TO.o.14.28, 77.TO.o.7b.v.38, 77.TO.o.9.30, 77.TO.v.01.39	75TO17, 75TO22, 77TO9bv49, 77TOo1335, 77TOo1428, 77TOo7bv38, 77TOo930, 77TOv0139		<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Hoà Binh	S1181	1	Deciduous canine	S1181:Noi Sang		S1181	<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Lang Trang	93LT111M11, 93LT88, 93LT89, 93LT91, 93LTC2B5108 M11, 93LTC2B5126 M121, 93LTC2B5131, 93LTC2B5132, 93LTC2B597, 93LTC2B598	10	Lower molar	93.LT.111, 93.LT.88, 93.LT.89, 93.LT.91, 93.LT.C2B5.108, 93.LT.C2B5.126, 93.LT.C2B5.131, 93.LT.C2B5.132, 93.LT.C2B5.97, 93.LT.C2B5.98	93LT111M11, 93LT88, 93LT89, 93LT91, 93LTC2B5108 M11, 93LTC2B5126 M121, 93LTC2B5131, 93LTC2B5132, 93LTC2B597, 93LTC2B598		<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Duoi U'Oi	DU996, DU998, DU1177, DU1012, DU1128,	4	Lower molar	DU996, DU998, DU1177, DU1012, DU1128	DU996, DU998, DU1177, DU1012	DU1128, DU1177	<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Hung Hum	HH42M2IR, HH55M2IR	2	Lower molar	HH42, HH55	HH42M2IR, HH55M2IR		<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Mai Da Dieu	MDD10-M3IL		Lower molar	MDD10	MDD10-M3IL		<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>
Vietnam	Thung Lang	TL001, TL002, TL4, TL17, TL18, TL30, TL36, TL37, TL38, TL39	10	Lower molar	TL001, TL002, TL4, TL17, TL18, TL30, TL36, TL37, TL38, TL39	TL001, TL002, TL4, TL17, TL18, TL30, TL36, TL37, TL38, TL39		<a href="mailto:maihuong72@gmail.com">maihuong72@gmail.com</a> ; <a href="mailto:nguyenanhtuanbio@yahoo.com.vn">nguyenanhtuanbio@yahoo.com.vn</a>

Laos	Marklot	ML5, S1113, ML1, ML4, ML6	1	ML5 = Lower left M1 S1113 = upper right P4 ML1= lower right M1 ML4= upper left P4 ML6= upper right M1	ML5, S1113, ML1, ML4, ML6	ML5	ML5, S1113, ML1, ML4, ML6	viengkaev@gmai l.com
Laos	Tam Hang	TH929	1	Upper molar			TH929	viengkaev@gmai l.com
Thailand	Tham Prakai Phet	TPKP-NE-128	1	Lower left P4	TPKP-NE-128		TPKP-NE- 128	<a href="mailto:essathiwat@gmail.com">essathiwat@gma il.com</a>
Malaysia	Niah Cave	S2258, S2246, S2249, S2254	1	S2258 = lower molar, S2249 =Upper jaw fragment including dentition	S2258: EW E 45-48 S2246: Y/2A S2249: Y/3 48- 54 S2254 : 36-48	S2258	S2258, S2246, S2249, S2254	<a href="mailto:limtetzshen@yahoo.com">limtetzshen@yah oo.com</a>
Indonesia	Punung	PU-1, PU-3, PU-5, PU-8, PU-4, PU-12, PU-13, PU-14, PU-15, PU-16, PU-20, PU-22, PU-27, PU-29, PU-35, PU-39, PU-44, PU-181, PU-182, PU- 186, PU-191, PU-195	22	Lower molar	PU 1, PU 3, PU 5, PU 8, PU 4, PU 12, PU 13, PU 14, PU 15, PU 16, PU 20, PU 22, PU 27, PU 29, PU 35, PU 39, PU 44, PU 181, PU 182, PU 186, PU 191, PU 195	PU-1, PU-3, PU-5, PU-8, PU-4, PU-12, PU-13, PU-14, PU-15, PU-16, PU-20, PU-22, PU-27, PU-29, PU-35, PU-39, PU-44, PU-181, PU-182, PU- 186, PU-191, PU-195	ottmar.kullmer@ senckenberg.de	
Indonesia	Sangiran	SMF-8858, SMF-8864, SMF-8879	3	Lower molar	SMF-PA-F- 8858, SMF-PA- F-8864, SMF- PA-F-8879	SMF-8858, SMF-8864, SMF-8879	SMF-8864	ottmar.kullmer@ senckenberg.de
<i>Pongo abelii</i>		Icet163LLM1, MAM7360M1, MAM7360M2, MAM7360M3, MAM7361M1, MAM7361M2, MAM7361M3, SMF59148LLM2 SMF59148LLM3 SMF59148LRM2 SMF59148LRM3 ZMB1209M1, ZMB1209M2, ZMB1209M3, ZMB67173M1, ZMB67173M2, ZMB67173M3,	20	Lower M1, M2 and M3	Icet163, MAM7360, MAM7361, SMF59148, ZMB1209, ZMB67173, ZMB83509	Icet163LLM1, MAM7360M1, MAM7360M2, MAM7360M3, MAM7361M1, MAM7361M2, MAM7361M3, SMF59148LLM2 SMF59148LLM3 SMF59148LRM2 SMF59148LRM3 ZMB1209M1, ZMB1209M2, ZMB1209M3, ZMB67173M1, ZMB67173M2, ZMB67173M3,	Icet163 ( <a href="https://www.morphosource.org/">https://www.mor phosource.org/</a> )  MAM7360, MAM7361, ZMB1209, ZMB67173, ZMB83509 <a href="mailto:jean-jacques.hublin@college-de-france.fr">jean- jacques.hublin@ college-de- france.fr</a>  SMF59148,	

		ZMB83509M1, ZMB83509M2 ZMB83509M3				ZMB83509M1, ZMB83509M2 ZMB83509M3		ottmar.kullmer@ senckenberg.de
<i>Pongo pygmaeus</i>		SMF16745LLM3 SMF16745LRM1 SMF16745LRM2 SMF16745LRM3 SMF2639LLM1, SMF2639LLM2, SMF2639LRM1, SMF2639LRM2, ZMB30944M1, ZMB30944M2, ZMB30944M3, ZMB38607M1, ZMB38607M2, ZMB38607M3, ZMB6948M1, ZMB6948M2, ZMB6948M3, ZMB6954M1, ZMB6954M2, ZMB6954M3, ZMB7875M1, ZMB7875M2, ZMB7875M3	23	Lower M1, M2 and M3	SMF16745, SMF2639, ZMB30944, ZMB38607, ZMB6948, ZMB6954, ZMB7875	SMF16745LLM3 SMF16745LRM1 SMF16745LRM2 SMF16745LRM3 SMF2639LLM1, SMF2639LLM2, SMF2639LRM1, SMF2639LRM2, ZMB30944M1, ZMB30944M2, ZMB30944M3, ZMB38607M1, ZMB38607M2, ZMB38607M3, ZMB6948M1, ZMB6948M2, ZMB6948M3, ZMB6954M1, ZMB6954M2, ZMB6954M3, ZMB7875M1, ZMB7875M2, ZMB7875M3		ZMB30944, ZMB38607, ZMB6948, ZMB6954, ZMB7875 <a href="mailto:jean-jacques.hublin@college-de-france.fr">jean- jacques.hublin@ college-de- france.fr</a>  SMF16745, SMF2639, <a href="mailto:ottmar.kullmer@senckenberg.de">ottmar.kullmer@ senckenberg.de</a>