

SUPPLEMENTARY DATA 1: SPECIMEN LIST AND TAPHONOMIC DATA

Supplementary Data 1

Institution	Specimen #	Facies	Physical taphonomic data											Soft tissue taphonomic data								
			Snout-urostyle length (SUL, mm)			Limb positions*								% Extent of phosphatised skin	% Extent of bacterial biofilm	Secondary taphonomic features						
			Completeness	%	Articulation	left shoulder angle,°	left elbow angle,°	left hip angle,°	left knee angle,°	right shoulder angle,°	right elbow angle,°	right hip angle,°	right knee angle,°			Carbonate in cranium (CC)	Well-preserved skin (WPS)	Stomach contents: shell fragments (SH)	Stomach contents: granular calcium phosphate (PH)	Bone marrow (BM)	Calcium sulphate discoids (SD)	Decay halo (DH)
FNS	A317	A	7.71	85.5	87.4	10	85	80	20	50	95	130	70	24.09	24.09	1	1	1	1	1	0	0
FNS	A324	B ₁	9.33	91.2	91.7	10	80	130	120	15	40	60	100	44.39	44.39	1	1	0	0	0	0	0
MCS	601b	B ₂	7.59	79	88.06	0	90	40	120	0	-	130	130	0	0	0	0	1	0	0	0	0
MCS	602b	B ₂	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
MCS	603b	B ₁	6.51	72	95.63	70	80	120	20	80	40	120	70	3.26	3.26	1	0	1	0	0	0	0
MCS	604b	B ₁	-	20	0.00	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0
MCS	605b	B ₂	7.60	69	75.39	60	100	70	30	60	160	90	25	5	5	1	0	0	0	0	1	0
MCS	606b	B ₁	9.08	88	82.85	-	-	110	10	0	20	160	80	3.26	3.26	1	0	1	0	0	0	0
MCS	607b	B ₁	6.51	86	96.34	80	40	120	70	70	80	120	20	2.67	2.67	1	0	1	0	0	0	0
MCS	608b	B ₁	9.01	86	80.99	30	50	120	90	40	140	130	130	18	6.5	1	0	0	0	0	1	0
MCS	609b	B ₂	-	90	91.61	20	80	120	50	50	70	100	30	4.9	4.9	-	0	1	0	0	1	0
MCS	610b	B ₂	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
MCS	611b	B ₁	-	20	0.00	-	-	-	-	-	-	-	-	0	0	-	0	0	0	0	0	0
MCS	612b	B ₂	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
MCS	613b	A	-	80	90.57	-	-	90	-	-	-	90	70	0	0	-	0	0	0	0	0	0
MCS	614b	B ₂	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
MGB	20789	A	-	65	77.75	60	130	110	80	50	90	80	80	66.5	43.3	1	0	0	0	0	1	0
MGB	27131/27120	B ₁	7.50	77	88.56	30	170	90	40	0	90	90	60	77.3	50.1	1	0	0	0	0	1	0
MGB	30173	B ₂	10.57	70	86.52	50	40	90	50	-	-	10	0	29.1	29.1	0	0	0	0	0	0	0
MGB	33176	B ₁	-	90	93.71	50	170	30	180	30	110	130	110	1.17	1.17	1	0	1	0	0	0	0
MGB	33177	B ₁	-	84	89.52	60	80	60	0	60	80	70	0	5.8	5.8	1	0	1	0	0	0	0
IPS	16467	B ₂	7.77	87	87.71	80	40	70	0	60	-	30	80	48.2	35.2	1	0	1	1	0	0	0
IPS	16468	B ₂	8.13	71	93.80	20	180	20	60	30	180	110	40	22.6	14.1	0	0	0	0	0	0	0
IPS	16469	B ₂	8.52	53	85.76	30	140	140	130	-	-	140	130	0.093	0.093	1	0	0	1	0	0	0
IPS	16470	B ₂	9.24	94	93.31	60	120	70	90	40	110	140	90	0.093	0.093	1	0	0	0	0	0	0
IPS	16471	B ₁	9.68	95	96.69	110	120	80	110	90	120	120	40	67.8	58.1	1	0	1	0	0	1	0
IPS	16492	B ₂	10.58	74	98.30	40	60	110	100	60	60	130	110	85.3	69.6	1	1	1	0	0	1	0
MNCN	63663	B ₂	7.40	95.6	100.00	38	79	26	65	95	38	118	70	76.52	44.4	0	1	1	0	0	1	0
MNCN	63694	B ₂	8.35	90	95.11	70	80	70	40	70	90	70	50	82.5	72.4	0	1	1	1	0	1	0
MNCN	63760	B ₂	9.32	92	89.06	30	90	120	110	20	160	130	80	0	0	1	0	1	0	1	0	0
MNCN	63762	B ₂	-	84	91.76	20	-	120	110	0	80	110	90	6.6	6.6	0	0	0	0	0	0	0
MNCN	63763	B ₁	9.29	64	93.12	60	60	70	15	30	60	90	10	71	54.1	1	0	1	1	0	0	1
MNCN	63773	B ₁	7.19	87	92.77	20	110	110	110	5	100	20	50	77.3	61.8	0	1	0	1	0	1	0
MNCN	63774	B ₂	2.03	100	98.7	105	80	90	61	75	46	70	60	3	3	1	0	0	0	0	0	0
MNCN	63775	A	9.17	86	95.61	40	150	100	60	50	170	130	110	76	37.1	1	1	0	1	0	0	0
MNCN	63776	B ₁	8.72	87	89.10	40	80	90	60	30	90	95	70	73.1	73.1	1	1	1	1	0	1	0
MNCN	63777	B ₂	7.91	79	96.82	100	50	110	80	80	80	110	80	3.72	3.72	0	0	1	0	0	0	1
MNCN	63778	B ₁	7.63	77	95.92	50	80	110	70	70	120	110	70	37.4	37.4	1	0	1	1	0	0	1
MNCN	63779	B ₁	8.50	93	88.50	70	80	130	120	20	120	140	110	45.2	45.2	1	1	1	1	1	1	1
MNCN	63784	B ₂	7.25	94	91.97	20	150	90	40	60	100	110	90	38	19.2	1	0	0	1	0	0	1
MNCN	63785	B ₁	4.25	-	-	27	115	33	115	85	41	89	0	-	-	1	0	0	0	0	0	0
MNCN	63787	B ₁	8.02	93	100.00	70	120	120	120	30	150	150	145	13	13	1	1	1	1	1	1	1
MNCN	63788	B ₁	8.54	93	95.20	30	80	30	80	30	95	50	120	4.3	4.3	1	1	0	0	0	1	0
MNCN	63789	A	6.16	86	92.70	80	90	40	20	90	80	60	10	0.05	0.05	1	1	1	1	1	0	0
MNCN	63790	B ₁	-	90	88.10	0	45	33	75	60	19	83	10	6.97	6.97	1	0	0	0	0	0	0
MNCN	63791	B ₁	8.32	89	94.35	40	70	120	100	60	180	130	100	88	66.1	1	1	1	1	0	1	1
MNCN	63794	B ₂	7.80	-	-	28	102	30	-	-	-	-	-	-	-	0	1	0	0	0	1	0
MNCN	63798	B ₁	7.44	90	98.60	0	70	130	110	50	140	120	120	38.7	29.4	1	0	1	1	0	0	0
MNCN	63800	B ₁	6.16	86	92.70	90	80	60	10	80	90	40	20	6.2	6.2	1	1	1	1	1	0	0
MNCN	63803	B ₂	8.45	100	96.90	-	-	70	30	20	100	70	40	42.2	39.9	1	1	1	1	0	1	0
MNCN	63805	B ₂	9.27	86	86.00	0	80	110	40	0	100	100	50	68.9	68.9	0	0	1	1	0	1	1

continued overleaf

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			Stomach contents: shell fragments (SH)	granular calcium phosphate (PH)			Bone marrow (BM)	Calcium sulphate discoids (SD)	Decay halo (DH)	Carbonate in cranium (CC)	Well-preserved skin (WPS)	left shoulder angle,°	left elbow angle,°	left hip angle,°			left knee angle,°	right shoulder angle,°	right elbow angle,°	right hip angle,°	right knee angle,°		
MNCN	63807	A	-	70	93.70	30	90	70	10	0	50	70	15	0.007	0.007	1	0	0	0	0	0	1	
MNCN	63809	B ₁	8.23	93	96.62	40	10	120	90	30	70	130	-	44.4	43.4	1	1	0	0	0	1	1	
MNCN	63819	B ₂	3.94	88.05	90.70	30	170	44	153	102	-	95	-	18.49	18.49	1	0	1	0	0	0	1	
MNCN	63823	B ₁	7.58	66	96.20	50	80	110	60	20	100	110	70	70.5	70.5	0	0	1	1	0	0	0	
MNCN	63838	B ₂	8.12	96	94.70	0	90	90	40	30	80	90	50	85.2	64.1	1	1	1	1	0	1	1	
MNCN	63839	B ₂	7.25	94	91.97	20	150	90	40	60	100	110	90	13.5	13.5	1	0	0	1	0	0	1	
MNCN	63840	B ₁	7.69	100	88.00	60	-	60	20	80	90	80	40	47.6	39.1	0	1	1	1	1	0	0	
MNCN	63842	B ₁	4.78	91	97.20	50	0	110	100	35	180	90	60	36.4	36.4	1	0	0	0	0	0	0	
MNCN	63845	B ₁	2.53	91.2	99.30	79	103	79	111	67	16	76	55	3.2	3.2	1	0	0	0	0	0	0	
MNCN	63847	B ₁	8.54	71	73.50	20	140	140	110	10	85	130	95	38.7	36.6	0	1	1	1	0	0	0	
MNCN	63866	B ₂	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	
MNCN	66506	B ₂	-	91.1	99.30	41	41	60	67	86	13	89	19	79.5	54.96	0	1	0	1	0	0	0	
MNCN	66507	B ₂	7.58	91.2	100.00	25	150	45	155	-	127	101	30	94.5	54.96	1	1	1	0	0	0	0	
MNCN	9649	B ₂	2.28	100	100	55	180	55	180	130	136	110	114	62.42	62.42	1	0	0	0	0	1	0	
MSB	26217	-	7.65	78	91.13	50	150	130	90	50	130	150	85	76.2	59.7	1	1	0	0	0	1	0	
MSB	31515	-	9.31	97	95.46	30	60	150	140	40	20	150	130	56.3	47	1	1	1	1	0	0	0	
NHM	R4981	B ₁	3.64	77	95.10	40	60	90	30	50	80	110	40	90	74.1	1	1	1	1	0	0	0	
NHM	R4982	B ₁	3.81	87	90.60	20	200	110	70	40	160	120	90	46.2	46.2	1	0	0	0	0	0	0	
NHM	R5254	B ₂	3.40	100	97.48	20	100	80	90	30	130	120	100	40.3	30.2	1	1	0	0	0	1	0	
NHM	R5255	B ₁	3.03	81	93.01	30	120	100	40	30	150	100	30	67.1	57.1	1	1	0	1	0	1	0	
NHM	R6694	B ₁	3.07	53	62.03	70	-	110	80	70	-	100	10	24.4	20	1	0	0	0	0	1	0	
NHM	R6797	B ₂	4.09	86	97.81	80	80	60	0	80	80	60	0	34.5	31.3	1	0	0	0	0	1	0	

Institution abbreviations

- FNS Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt
MCS Museo del Colegio La Salle, Teruel, Spain
MGB Museu de Geologia de Barcelona, Barcelona, Spain
IPS Institut Català de Paleontologia Miquel Crusafont, Sabadell, Spain
MNCN Museo Nacional de Ciencias Naturales, Madrid, Spain
MSB Museu del Seminari, Barcelona, Spain
NHM National History Museum, London, UK

Dash (-) indicates that data could not be collected for a specimen

For the secondary taphonomic features, '1' indicates a feature is present, and '0', absent.

* 'Left' and 'Right' refer only to the appearance of the specimen on the slab as the way-up of each specimen is unknown and therefore the true aspect (dorsal / ventral) of specimens could not be determined