SUPPLEMENTARY DATA 4: ANALYSES YIELDING INSIGNIFICANT RESULTS

List of figures and tables

(according to their appearance in the main manuscript)

1. Facies

Percentage completeness and articulation of specimens in each facies	3
Percentage extent of skin and of bacterial biofilm of specimens in each facies	3
The angle between the bones at the shoulder and elbow joints of specimens in each facies	3
The angle between the bones at the hip and knee joints of specimens in each facies	3
Size (snout-urostyle length (SUL)) of specimens in each facies	3
: Observed and expected values for the number of specimens in each completeness category per	
facies	4
Observed and expected values for the number of specimens in each articulation category per	
facies	4
Observed values for the number of specimens with each soft tissue feature per facies	4
:	Percentage completeness and articulation of specimens in each facies Percentage extent of skin and of bacterial biofilm of specimens in each facies The angle between the bones at the shoulder and elbow joints of specimens in each facies The angle between the bones at the hip and knee joints of specimens in each facies Size (snout-urostyle length (SUL)) of specimens in each facies Observed and expected values for the number of specimens in each articulation category per facies Observed and expected values for the number of specimens in each articulation category per facies

2. Completeness and articulation

Fig. 2A:	Percentage articulation versus percentage completeness	5
Fig. 2B:	Percentage completeness and articulation versus percentage extent of the skin	5
Fig. 2C:	Percentage completeness and articulation versus percentage extent of the biofilm	5
Fig. 2D:	Percentage extent of the skin for specimens in each completeness category	5
Fig. 2E:	Percentage extent of the biofilm for specimens in each articulation category	5
Fig. 2F:	Percentage extent of the biofilm for specimens in each articulation category	5
Fig. 3:	Percentage articulation of specimens in which each soft tissue feature is present/absent	6
Table 2A:	Observed values for the number of specimens in each completeness category with each soft	
	tissue feature	7
Table 2B:	Observed values for the number of specimens in each articulation category with each soft tissue	
	feature	7

3. Limb positions

Fig. 4A:	Percentage completeness plotted against the angle between the bones at each of the shoulder and
	elbow joints

Fig. 4B:	Percentage completeness plotted against the angle between the bones at each of the hip and knee
	joints
Fig. 4C:	Percentage articulation plotted against the angle between the bones at each of the shoulder and
	elbow joints
Fig. 4D:	Percentage articulation plotted against the angle between the bones at each of the hip and knee
	joints
Fig. 4E:	Percentage extent of the skin plotted against the angle between the bones at each of the shoulder
	and elbow joints
Fig. 4F:	Percentage extent of the skin plotted against the angle between the bones at each of the hip and
	knee joints
Fig. 4G:	Percentage extent of the biofilm plotted against the angle between the bones at each of the
	shoulder and elbow joints
Fig. 4H:	Percentage extent of the biofilm plotted against the angle between the bones at each of the hip
	and knee joints
Fig. 5A:	The angle between the bones at the elbow joint plotted against that at the shoulder joint;
	specimens coded according to the type of skeletal element absent
Fig. 5B:	The angle between the bones at the knee joint plotted against that at the hip joint; specimens
	coded according to the type of skeletal element absent
Fig. 5C:	The angle between the bones at the elbow joint plotted against that at the shoulder joint;
	specimens coded according to the type of disarticulated joint present
Fig. 5D:	The angle between the bones at the knee joint plotted against that at the hip joint; specimens
	coded according to the type of disarticulated joint present9

4. Limb positions

 Table 3: ANOVA and non-parametric Welch's ANOVA results for the similarity in variance in limb

 positions for specimens with, and without, each soft tissue feature

 10

5. Specimen size

Fig. 6A:	Specimen size versus percentage completeness and articulation 11
Fig. 6B:	Specimen size versus percentage extent of the skin and biofilm
Fig. 6C:	Specimen size versus the angle between the bones at each of the shoulder and elbow joints 11
Fig. 6D:	Specimen size versus the angle between the bones at each of the hip and knee joints 11
Fig. 6E:	Specimen size versus the type of skeletal element absent 11
Fig. 6F:	Specimen size versus the joint of disarticulated joint present 11
Fig. 7:	Specimen size versus the presence/absence of each soft tissue feature 12



FIGURE 1—Analysis of variation in percentage completeness and percentage articulation (A), percentage extent of the skin and of the biofilm (B), limb positions (C-D) and specimen size (E) per facies, with results of ANOVA and non-parametric Welch's ANOVA analyses. C and D show plots of the angle between the bones at the shoulder and elbow (C) and hip and knee joint (D) per facies. artic., articulation; biof., biofilm; compl., completeness; SUL, snout-urostyle length. Horizontal and vertical bars denote mean, and standard deviation, values respectively.

<u>^</u>	OBS	compl	eteness cate	egory			
-	Facies	complete	phalanges only	other elements			
	A	0 3		2			
	B ₁	1	18	10			
	B_2	4 17		6			
Ī	EXP	completeness category					
	Facies	complete	other elements				
	A	0.429	3.257	1.543			
	B ₁	2.357	8.486				
	B ₂	2.214	7.971				
ľ	Fisher test result: p = 0.498						

	OBS	articulation category						
	Facies	articulated	distal joints only	distal and proximal joints	distal and proximal joints (incl. abd.)			
	А	0	0	3	3			
	B ₁	1	10	15	6			
	B ₂	3	7	14	5			
	EXP	articulation category						
Facies		articulated	distal joints only	distal and proximal joints	distal and proximal joints (incl. abd.)			
	А	0.343	1.457	2.743	1.200			
	B ₁	1.886	8.014	15.086	6.600			
B ₂		1.771	7.529	14.171	6.200			
	Fisher test result: p = 0.466							

С

Facies	Total no. of specimens	сс	WPS	PH	SHF	SD
А	6	5	3	3	2	1
B ₁	33	27	13	15	18	12
B ₂	31	16	9	9	12	12
Pearson correlation coefficient	-	0.897	0.942	0.897	0.951	0.998

TABLE 1—Observed (OBS) and expected (EXP) frequency matrices for the number of specimens in the completeness (A) and articulation (B) categories per facies, and an observed frequency matrix for the number of specimens with each soft tissue feature per facies (C). (A) and (B) include results of the Fisher correlation coefficient of similarity between the data for each facies and the distribution of the total number of specimens among the different facies, and (C) shows the Pearson correlation coefficient of similarity between the data for each facies and the distribution of the total number of specimens among the different facies. abd., abdomen; CC, carbonate in the cranium; incl., including; PH, phosphate in the stomach; SD, calcium sulfate discoids; SH, shell fragments in the stomach; WPS, well preserved skin.



FIGURE 2—Analyses of articulation and completeness. A:Percentage articulation versus percentage completeness. B: Percentage articulation and completeness versus percentage extent of the skin. C: Percentage completeness and articulation versus percentage extent of the biofilm. D: Percentage extent of the skin versus the type of skeletal element absent, with results of ANOVA analysis. E: Percentage extent of the biofilm versus the type of skeletal element absent, with results of non-parametric Welch's ANOVA analysis. F: Percentage extent of the biofilm versus the type of joint disarticulated, with results of ANOVA analysis. biof., biofilm; disartic., disarticulated; excl., excluding; incl., including.



FIGURE 3—Plot of percentage articulation for specimens in which each secondary feature is present (left-hand column of data for each feature) and absent (right-hand column of data for each feature), respectively, with results of ANOVA analyses. (n=x/n=y) indicates that a feature is present in x specimens, and absent in y specimens. cc, carbonate in the cranium; ph, phosphate in the stomach; sd, calcium sulfate discoids; sh, shell fragments in the stomach; wps, well-preserved skin. Vertical and horizontal bars denote standard deviation and mean, respectively.

Δ		Soft tissue feature						
~	Type of element incomplete	Total number of specimens	сс	WPS	SH	PH	SD	
	none	5	4	3	2	2	2	
	phalanges only	38	28	20	16	18	15	
	additional elements	24	17	4	13	7	6	
	Pearson correla- tion coefficient	-	0.999	0.848	0.973	0.955	0.953	

Β

Type of joint disarticulated	Total number of specimens	сс	WPS	SH	PH	SD
none	4	2	4	2	1	3
distal joints only	18	15	12	7	6	11
distal & proximal (excluding abdomen)	15	13	4	7	5	3
distal & proximal (including abdomen)	31	18	7	13	15	9
Pearson correlation coefficient	-	0.925	0.398	0.994	0.980	0.670

Soft tissue feature

TABLE 2—Observed frequency matrices for the number of specimens with each soft tissue feature in each completeness (A) and articulation (B) category, showing the Pearson correlation coefficient of similarity between the data for each category and the distribution of the total number of specimens among categories in each of (A) and (B), respectively. CC, carbonate in cranium; PH, phosphate in the stomach; SD, calcium sulfate discoids; SH, shell fragments in the stomach; WPS, well-preserved skin.



FIGURE 4—Analyses of the relationships between limb positions and other taphonomic indices. A, B: Percentage completeness versus the angle between the bones at each of the shoulder and elbow (A), and hip and knee (B) joints. C, D: Percentage articulation versus the angle between the bones at each of the shoulder and elbow (C), and hip and knee (D) joints. E, F: Percentage extent of the skin versus the angle between the bones at each of the shoulder and elbow (C), and hip and knee (T) joints. E, F: Percentage extent of the skin versus the angle between the bones at each of the shoulder and elbow (E), and hip and knee (F) joints. G, H: Percentage extent of the biofilm versus the angle between the bones at each of the shoulder and elbow (G), and hip and knee (H) joints.



FIGURE 5— Analyses of limb positions and the type of skeletal element absent, and the type of disarticulated joint present. A, C: Plots of the angle between the bones at the elbow joint versus that at the shoulder joint; specimens coded according to the type of skeletal element absent (A) and disarticulated joint present (C). B, D: Plots of the angle between the bones at the knee joint versus that at the hip joint; specimens coded according to the type of skeletal element absent (B) and disarticulated joint present (D). Polygons denote the range of angles at each joint exhibited by specimens in each completeness and articulation category. ast., astragalus; calc., calcaneum; disartic., disarticulated; ph., phalanges; tib., tibiofibula.

shoulder	F	df	p
CC WPS SH PH GD	2.235 2.093 0.674 0.6094 0.0386	1,105 1,90 1,105 1,105 1,105 1,105	0.1379 0.1515 0.4135 0.4368 0.8447
elbow	F	df	p
CC WPS SH* PH* GD*	1.803 0.0957 1.245 0.2257 4.932	1,102 1,99 86.87 94.78 98.33	0.1823 0.7576 0.2676 0.6358 0.0286
hip	F	df	p
CC WPS SH PH GD	1.234 0.062 0.794 1.628 1.359e ⁻⁵	1,110 1,110 1,110 1,110 1,110 1,110	0.1543 0.8045 0.3748 0.2046 0.9971
hip	F	df	p
CC* WPS SH PH GD	0.0257 0.9167 0.8682 0.7053 0.384	84.25 1,109 1,109 1,109 1,109 1,109	0.8733 0.3405 0.3535 0.4028 0.5368

TABLE 1—Results of ANOVA and non-parametric Welch's ANOVA (the latter indicated by *) analysis of similarity in variance of the angle between the bones at each of the shoulder, elbow, hip and knee joints between specimens with, and without, each of the soft tissue features. CC, carbonate in the cranium; df, degrees of freedom; PH, phosphate in the stomach; SD, calcium sulfate discoids; SH, shell fragments in the stomach; WPS, well preserved skin.



FIGURE 6—Analyses of specimen size and taphonomic variables. A-D: Snout-urostyle length (SUL) plotted against percentage completeness and articulation (A), percentage extent of the skin and the biofilm (B), the angle between the bones at each of the shoulder and elbow joints (C), and the hip and knee joints (D), and the type of skeletal element absent (E) and joint disarticulated (F). disartic, disarticulated; excl., excluding; incl., including.



FIGURE 7—Plots of snout-urostyle length (SUL) for specimens in which each secondary taphonomic feature is present (left-hand column of data for each feature) and absent (right-hand column of data for each feature), respectively. (n=x/n=y) indicates that a feature is present in x specimens, and absent in y specimens. cc, carbonate in the cranium; ph, phosphate in the stomach; sd, calcium sulfate discoids; sh, shell fragments in the stomach; wps, well-preserved skin. Vertical and horizontal bars denote standard deviation and mean, respectively.