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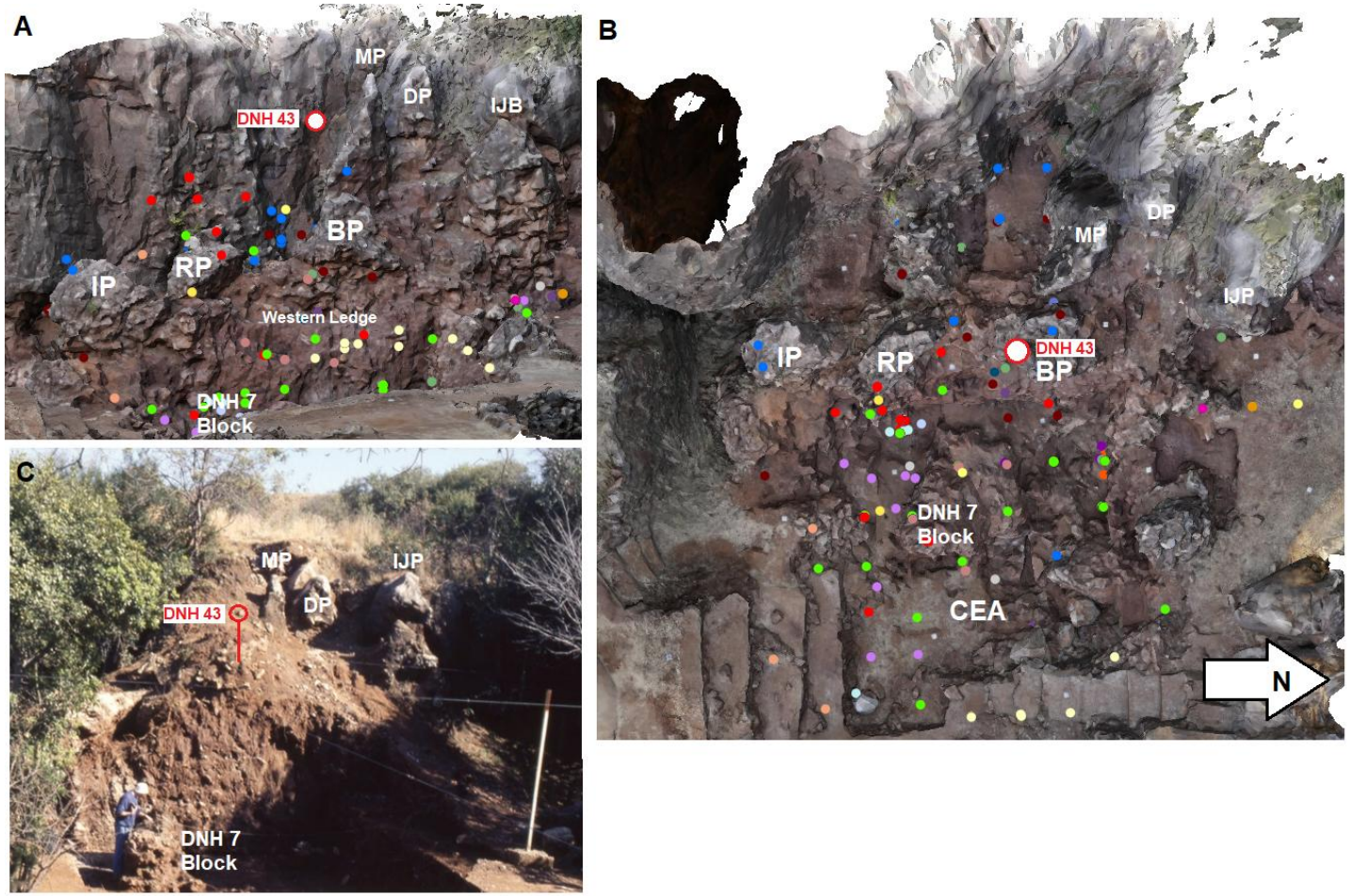
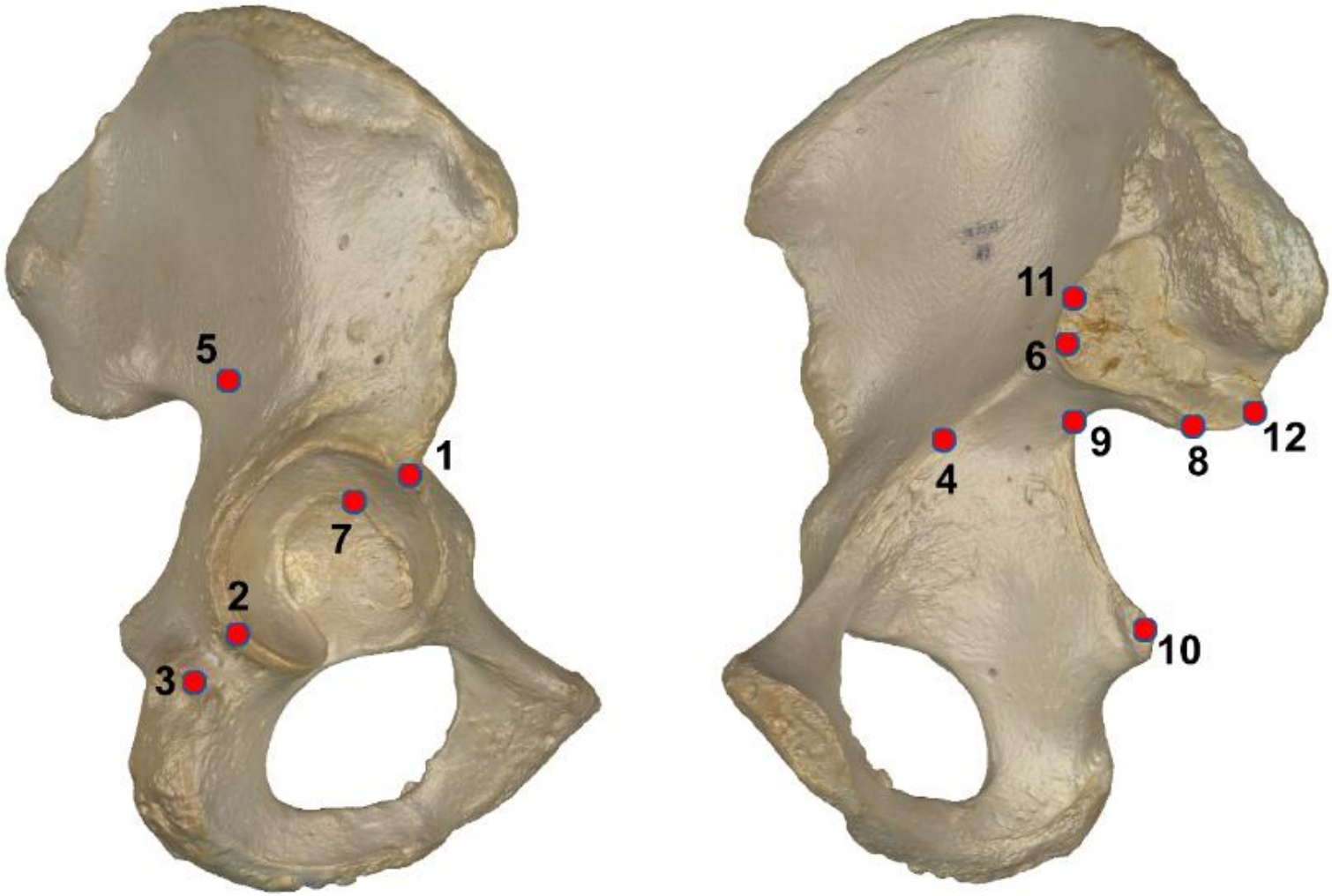
Site context information for the DNH 43 pelvis

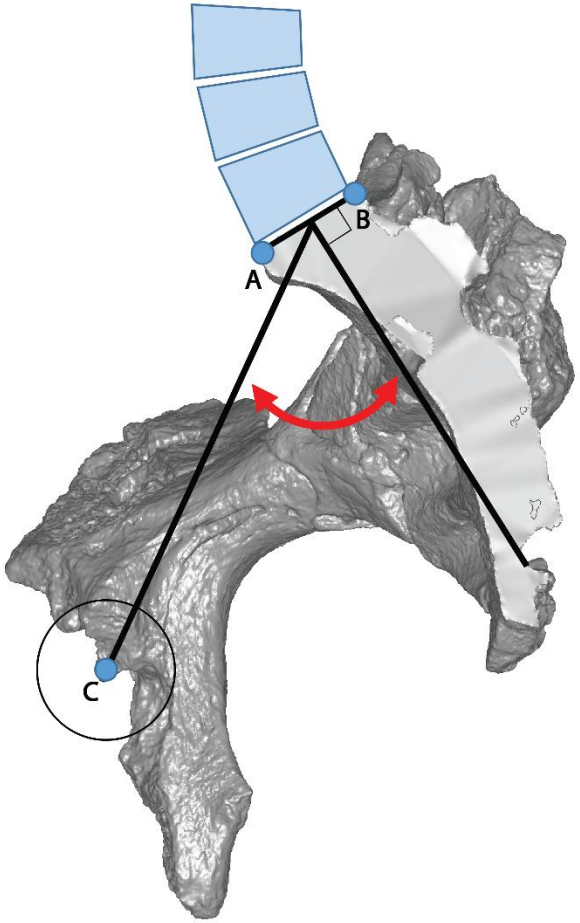
The context of DNH 43's recovery within the Drimolen Main Quarry (DMQ) is shown in Supplementary figure 1A–C. The specimen was discovered by Andre Keyser's team working at DMQ, but the exact date of discovery is not noted in the excavation records from this period. DNH 44 was recovered in 1997 and DNH 40 in 1995 and so it is likely that DNH 43 was recovered around this time. Photos from 1997 indicate that sediments had already been removed from the area in which it was discovered (Supplementary figure 1C), confirming this as an upper limit on its year of collection. It is described as coming from the Main Pinnacle breccia with 3D coordinate date (local grid) of Northing 197.385, Easting 211.82, Depth 0.782 (Supplementary figure 1C). The Main Pinnacle was a name for what is now known to be three separate breccia pinnacles that were at the time covered by a loose talus cone. These three Pinnacles (IP, RP and BP) now exist as three large blocks of breccia that sit on top of the Western Ledge deposits of the Central Excavation Area. Breccia was significantly removed from these pinnacles by Keyser and DNH 43 may have been removed early on in this process from the B Pinnacle, over which its find location lies. If the breccia came from this height in the sequence, then DNH 43 would be the youngest fossil recovered from DMQ, coming from normal polarity deposits a little younger than 1.95 Ma.[1] Photos from 1997 do show breccia outcropping from this talus slope but DNH 43 appears to have been recovered higher than the breccia outcrops. Moreover, no other hominin fossils originate from this high in the DMQ sequence (Supplementary figure 1A). Another, perhaps more likely, possibility is that it came from a loose breccia block lying on the loose talus cone surface, something that is documented for other fossils from the site.



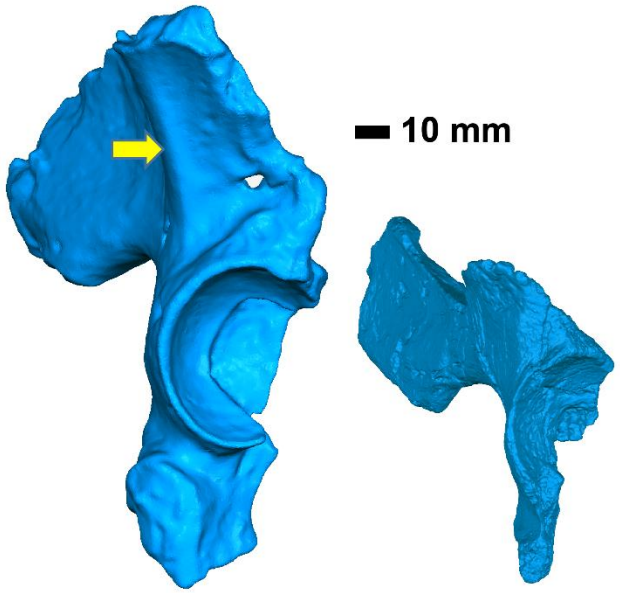
Supplementary figure 1: Location of the DNH 43 fossil block: (A) GIS data overlain on photogrammetry model looking west; (B) plan view; and (C) projected location (circle) based on a 1997 photo from DMQ looking west. The location of major pinnacles described by Herries et al.[1] are shown: Marcel Pinnacle (MP), Italian Job Pinnacle (IJP) and DNH 7 Block as well as the Dinofelis Pinnacle (DP). Idris Pinnacle (IP), Riley Pinnacle (RP) and Bryn Pinnacle (BP) and the Central Excavation Area (CEA).



Supplementary figure 2: *Homo sapiens* os coxae demonstrating the landmarks used for measurements (see Supplementary table 1 for definitions).



Supplementary figure 3: Pelvic incidence (56°) measured in the partially reconstructed and articulated DNH 43. The pelvis has been bisected sagitally for demonstration. The angle was measured following the 3D method from Peleg et al.[3] Landmarks A and B represent the anterior- and posterior-most points on the sacral plateau's sagittal midline. Landmark C represents the midpoint of a line segment that connects the centres of the right and left acetabular fossae. The pelvic incidence angle (red arrow) was then calculated as the angel between the orthogonal to line segment AB (which approximates the orientation of the sacrum) and line segment AC. The blue boxes represent an approximate reconstruction of the inferred positioning of the caudal three lumbar vertebrae in lordosis.



Supplementary figure 4: Comparison of 3D polygon models of specimen OH 28 (left) versus DNH 43B (right). Note the much larger overall size and prominent acetabulocristal buttress (yellow arrow) in OH 28.

Supplementary table 1: Measurement definitions

Measurement	Element	Description/landmarks*
Anteroposterior dimension of sacral plateau	Sacrum	Maximum anteroposterior dimension
Mediolateral dimension of sacral plateau	Sacrum	Maximum mediolateral dimension
Superoinferior acetabular diameter (AD)	Os coxae	Landmarks 1 → 2
Tuberoacetabular sulcus width (TAS)	Os coxae	Landmarks 2 → 3
Acetabulosacral buttress thickness (ASBT)	Os coxae	Landmarks 4 → 5
Acetabulosacral load arm (ASLA)	Os coxae	Landmarks 6 → 7
Greater sciatic notch angle (SNA)	Os coxae	Landmarks 8 → 9 → 10
Greater sciatic notch proportions (SNP)	Os coxae	Relative posterior-positioning of the notch apex quantified as the length of segment defined by landmark 8 and the projection of landmark 9 onto segment 8 → 10 and divided by length of 8 → 10
Auricular surface breadth (AUR)	Os coxae	Landmarks 11 → 12
Pelvic inlet mediolateral breadth	Articulated reconstruction	Maximum mediolateral distance across the pelvic inlet taken on arcuate line
Biacetabular breadth	Articulated reconstruction	Mediolateral distance between the centres of the left and right acetabula
Bispinous breadth	Articulated reconstruction	Mediolateral distance between left & right ischial spines (i.e. the midplane obstetric dimension)
Pelvic incidence (PI)	Articulated reconstruction	Verticality of the sacrum following Peleg et al.[2]

**Landmark numbers refer to those shown in Supplementary figure 2.*

Supplementary table 2: Measurements for individual specimens

Taxon/group[a]	Specimen	Sacral plateau AP	Sacral plateau ML	AD	TAS	ASBT	ASLA	SNA	SNP	AUR	Source[b]
DNH 43	DNH43	16.6	29.3	41.1	13.2	16.6	46.8	87.3	0.48	31.2	1
Australopithecus afarensis	AL288-1	16.6	31.1	36.8	18.6	14.8	45.3	85.9	0.25	29.9	2
Australopithecus africanus	STS 14	14.6	24.6	39.5	16.4	14.4	38.7	95.6	0.28	27.3	3
Australopithecus africanus	STW 431	18.0	32.5								1
Australopithecus africanus	STS 65					16.4	45.2			23.2	4
Australopithecus sediba	MH1			37.8		18.6	43.0			31.1	5
Australopithecus sediba	MH2			40.7	9.5	17.2	37.0			33.7	5
Early *Homo sapiens*	Omo-Kibish 1			58.3	10.1		64.6	81.8	0.34	52.0	4
Early *Homo sapiens*	Skuhl IV			60.3	12.1	24.0	44.8	80.4	0.48	39.4	2
Recent *H. sapiens* Female	Maxwell Museum 127	24.2	40.7	50.6	12.3	23.0	45.2	76.0	0.48	54.6	1
Recent *H. sapiens* Female	Maxwell Museum 216	27.5	40.6	51.4	12.9	21.2	50.3	88.0	0.46	51.9	1
Recent *H. sapiens* Female	Maxwell Museum 220			51.0	17.0	17.5	53.7	85.0	0.41	52.0	1
Recent *H. sapiens* Female	Maxwell Museum 223			55.7	17.6	24.8	45.4	75.8	0.27	57.1	1
Recent *H. sapiens* Female	Maxwell Museum 224	38.3	45.4	57.5	16.1	26.9	53.3	77.6	0.28	61.9	1
Recent *H. sapiens* Female	Maxwell Museum 230	26.8	40.6	48.3	12.3	20.6	48.6	81.9	0.36	52.0	1
Recent *H. sapiens* Female	Maxwell Museum 242	34.0	50.3	61.7	21.7	20.9	61.2	78.4	0.37	63.5	1
Recent *H. sapiens* Female	Maxwell Museum 257	32.6	48.2	50.6	17.5	21.3	51.9	86.4	0.31	51.3	1
Recent *H. sapiens* Female	Maxwell Museum 259	30.4	43.1	53.4	17.0	22.3	49.4	75.0	0.31	54.7	1
Recent *H. sapiens* Female	Maxwell Museum 261	29.8	43.0	53.8	11.2	21.8	52.9	80.5	0.47	60.7	1
Recent *H. sapiens* Female	Maxwell Museum 267			49.9	12.7	17.8	55.8	79.6	0.34	51.6	1

Taxon/group[a]	Specimen	Sacral plateau AP	Sacral plateau ML	AD	TAS	ASBT	ASLA	SNA	SNP	AUR	Source[b]
Recent *H. sapiens* Female	Maxwell Museum 269	27.6	41.9	50.8	14.1	22.9	53.9	93.9	0.36	47.8	1
Recent *H. sapiens* Female	Maxwell Museum 272			49.6	12.6	18.0	64.2	86.4	0.52	46.4	1
Recent *H. sapiens* Male	Maxwell Museum 42	29.4	45.1	50.9	12.2	20.0	48.9	70.1	0.16	48.5	1
Recent *H. sapiens* Male	Maxwell Museum 227	33.4	49.7	58.8	15.7	25.7	46.7	61.2	0.19	58.1	1
Recent *H. sapiens* Male	Maxwell Museum 228	34.3	44.8	54.3	21.7	22.9	56.9	69.9	0.12	57.1	1
Recent *H. sapiens* Male	Maxwell Museum 232	32.5	53.7	54.0	19.1	26.3	52.2	66.5	0.39	57.5	1
Recent *H. sapiens* Male	Maxwell Museum 234	32.6	50.3	56.4	21.2	30.6	41.3	71.1	0.16	58.2	1
Recent *H. sapiens* Male	Maxwell Museum 238	29.5	47.1	54.2	13.5	25.1	46.4	70.4	0.28	56.7	1
Recent *H. sapiens* Male	Maxwell Museum 240	31.4	44.8	53.3	14.1	20.5	50.5	69.4	0.29	50.1	1
Recent *H. sapiens* Male	Maxwell Museum 245	30.2	53.4	57.8	15.1	25.6	60.0	72.6	0.45	57.6	1
Recent *H. sapiens* Male	Maxwell Museum 252			57.3	16.8	25.8	52.3	66.2	0.22	64.1	1
Recent *H. sapiens* Male	Maxwell Museum 256	34.4	59.1	65.0	22.1	24.7	54.9	59.4	0.13	65.8	1
Recent *H. sapiens* Male	Maxwell Museum 265	36.8	57.0	64.5	19.8	25.8	46.1	66.2	0.28	71.4	1
Recent *H. sapiens* Male	Maxwell Museum 268	34.1	47.7	52.4	19.9	24.2	47.9	69.5	0.21	56.6	1
Early *Homo* sp.	Arago XLIV			61.2	11.1	22.2	63.0			37.8	2
Early *Homo* sp.	Kabwe E.719			62.0	15.5	22.1	48.9	73.4	0.26	35.4	2
Early *Homo* sp.	KNM-ER 3228			55.3	10.6	24.1	50.1	73.5	0.35	35.6	6
Early *Homo* sp.	KNM-ER 5881						41.7				2
Early *Homo* sp.	KNM-WT 15000			57.3	9.3	17.8	42.2	86.3	0.22	35.2	6

Taxon/group[a]	Specimen	Sacral plateau AP	Sacral plateau ML	AD	TAS	ASBT	ASLA	SNA	SNP	AUR	Source[b]
	(reconstruction ref										
Early *Homo* sp.	OH28			54.9	14.3	19.1	50.4	84.0	0.36	43.9	7
Early *Homo* sp.	KNM-ER 1808					18.8	55.1				2
Neanderthal	Amud 1			59.7		20.7	55.6				2
Neanderthal	Kebara 2			56.5	10.0	24.2	50.7	60.7	0.19	34.0	2
Neanderthal	Krapina 207			53.6	11.8	17.6	45.2	73.6	0.22	31.1	6
Neanderthal	Neandertal 1			61.3	11.5	26.6	61.0	59.8	0.08	44.4	6
Neanderthal	Tabun				5.3						6
Homo floresiensis	LB1			36.0	15.9	18.5	39.1	81.0	0.44	41.0	7
Paranthropus robustus	SK3155b			38.8	16.1	14.6	41.9	84.5	0.49	31.8	1
Paranthropus robustus	SK50			38.0	24.2	18.0	52.9	80.7 (est.)	0.51 (est.)		1
Paranthropus robustus	TM1605					15.9	48.9				4

AP, anteroposterior; ML, mediolateral; AD, acetabular diameter (superoinferior); TAS, tuberoacetabular sulcus breadth; ASBT, acetabulosacral buttress thickness; ASLA, acetabulosacral load arm; SNA, sciatic notch angle; SNP, sciatic notch proportions; AUR, auricular surface breadth

[a]The human individuals come from the Documented Collection in the Laboratory of Human Osteology in the Maxwell Museum of Anthropology following the research and ethics review of that institution

[b]Data sources (measured by authors on 3D polygon models generated using the following scanning methods unless literature citation provided):

1 Artec Space Spider scan of original specimen

2 NextEngine scan of research-quality cast

3 Konika-Minolta scan of original specimens

4 NextEngine scan of original specimen

5 Measurements from Churchill et al.[3]

6 Geomagic Capture scan of research-quality cast

7 Computed tomography scan of original specimen

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