

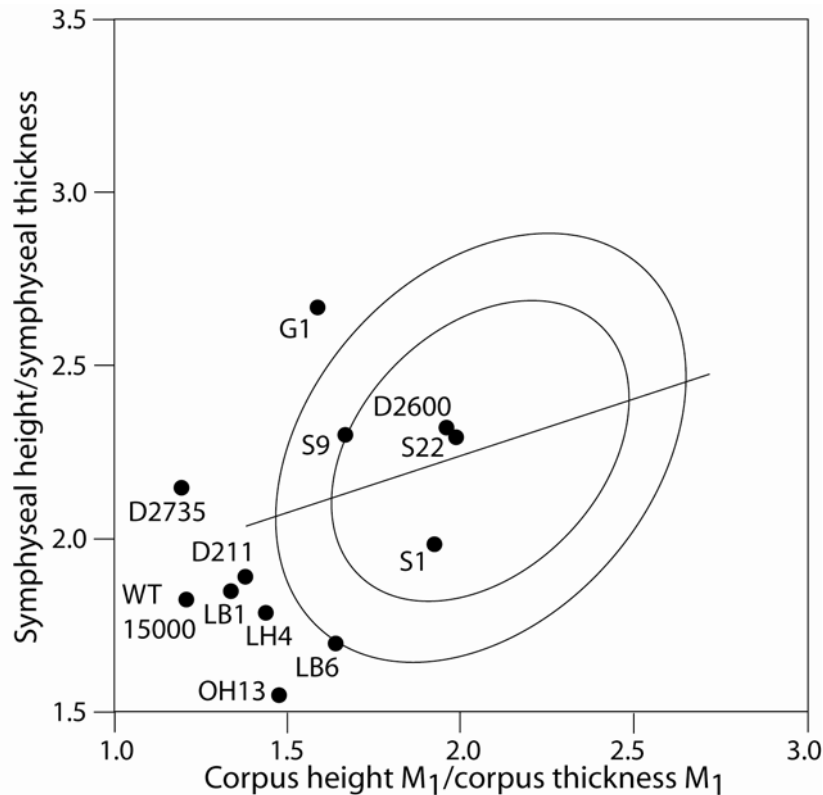
Supplementary information

Mandible dimensions	LB1	LB6/1	LB2
Symphysial height	28	27	-
Symphysial thickness	15	16	-
Corpus height M1-M2	20.5	22.9	-
Corpus thickness M1	15	14	-
External arch breadth M1-M1	51	48.5	-
Minimum ramus breadth	36	36.5	-
Tooth crown dimensions			
P3 buccolingual	7.9	7.6	8.6
P3 mesiodistal	9.1	8.1	9.0
P4 buccolingual	-	7.6	-
P4 mesiodistal	-	5.8	-
M1 buccolingual	11.4	10.0	-
M1 mesiodistal	8.6	8.2	-
M2 buccolingual	10.7	9.7	-
M2 mesiodistal	10.0	8.7	-
M3 buccolingual	10.0	8.9	-
M3 mesiodistal	9.5	7.9	-

SUPPLEMENTARY TABLE S2. Comparison of mandible and tooth crown dimensions for LB1, LB6/1 and LB2 (mm). All mesiodistal crown dimensions have been reduced by interproximal tooth wear.

	Liang Bua 1 and 6	E. African early <i>Homo</i>	E. African <i>H. erectus</i>	Sangiran <i>H. erectus</i>	Chinese <i>H. erectus</i>	Dmanisi <i>H. erectus</i>
MD elongation of P3 crown	yes	yes	yes	no	no	variable
Complex P3 root morphology (multiple or Tome's)	yes	yes	yes	variable	no	variable
Complex P4 root morphology (multiple or Tome's)	yes	yes	yes	variable	no	unknown
Advanced molar crown reduction	yes	no	yes	yes	yes	yes
M1≥M2>M3	yes	no	yes	yes	yes	yes
Relatively wide alveolar arcade	no	no	variable	yes	yes	no
Mandibular corpus comparatively thin	no	no	no	yes	yes	variable
Symphysis comparatively thin	no	no	no	yes	yes	variable
Weak expression of posterior symphyseal structures	no	no	variable	yes	yes	variable
Broad extramolar sulcus	yes	yes	variable	yes	no	no

SUPPLEMENTARY TABLE S3. Morphological features shared by LB1 and LB6/1 that distinguish them from East African early *Homo*, and African, Asian and European *H. erectus*. Data for early *Homo* and *H. erectus* modified from ref.¹. The Liang Bua mandibles share more traits in common with East African early *Homo* and *H. erectus* than with *H. erectus* populations outside of Africa.



SUPPLEMENTARY FIGURE 1. Comparison of mandibular corpus height/thickness and symphysis height/thickness ratios in LB1 and LB6 with a robust modern human sample² (n=478, 90% and 68% confidence ellipses and least squares regression line), *Homo erectus* from Sangiran³ (S1, S9, S22), Zhoukoudian⁴ (G1), Dmanisi^{5,6} (D211, D2735, D2600), and West Turkana⁷ (KNM WT-15000), Olduvai early *Homo*⁸ (OH 13), and Laetoli *A. afarensis*⁹ (LH4). Both D2735 and WT-15000 are subadults. The two Liang Bua mandibles share with OH13, LH4, WT15000 and two of the Dmanisi mandibles, a symphysis and corpus which are thickened relative to the height of the same regions. For the symphysis this is the result of not having a trigonum mentale, having a well developed alveolar planum and superior transverse torus, a deep diagastric fossa and a strong posterior angulation of the symphyseal axis. This symphyseal morphology is distinct from the pattern in modern humans, and known examples of Asian *Homo erectus*. While Zhoukoudian and Sangiran *H. erectus* do not have a trigonum mentale their posterior symphyseal morphology is within the range of variation in modern humans, as is the height/thickness ratios of their alveolar segments. The Dmanisi mandibles exhibit a great deal of variation, both in size and morphology^{5,6}. In their overall symphyseal

morphology the Liang Bua mandibles are more similar to African *A. afarensis* (Supplementary Figure 2) and to a lesser degree WT-15000 and D211, than to Asian *H. erectus*.



SUPPLEMENTARY FIGURE 2. Occlusal views of Laetoli *Australopithecus afarensis* mandible LH4 and Liang Bua *Homo floresiensis* mandible LB6. Similarities include the shape of the dental arch, and the morphology of the posterior symphysis and P3 crown. Differences are most obvious in the larger size of LH4, considerably greater postcanine tooth dimensions in LH4, with $M1 < M2 < M3$, and the more anterior position of the lateral prominence in LH4.

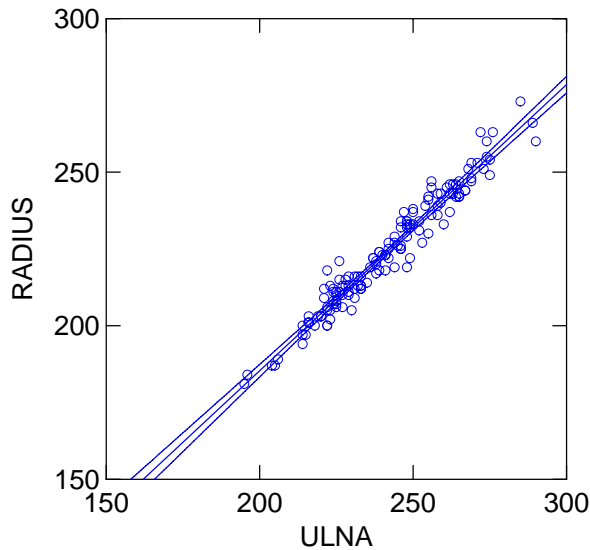


SUPPLEMENTARY FIGURE 3. The LB8 right tibia has an incomplete medial condyle, the lateral intercondylar eminence is fairly complete, and the medial malleolus is not preserved. Maximum length of the tibia (Martin and Saller 1a) was calculated after

estimating the projection of the medial malleolus from the distal articular surface. Using 10 African Pygmy tibia scaled to the same length the projection averaged 7 mm. This achieved a maximum tibia length of 216 mm. As the medial malleolus is not preserved in either of the LB1 tibia, and LB8 is from a species with different postcranial dimensions and anatomy to *H. sapiens* it is not known how accurate this estimate is.



SUPPLEMENTARY FIGURE 4. The LB1 right ulna is missing its head and distal end of the shaft. Estimation of the length of the missing segment was made by comparison with the ulna of small-bodied humans (10 African pygmy ulna). The LB1 ulna shaft is broken just as it starts to expand towards the distal articular surface. Comparison with human Pygmy ulna suggest that the missing section was approximately 15 mm in length, which would give the LB1 ulna shaft section of 190 mm an approximate maximum length of 205 mm. As LB1 is from a species with different postcranial dimensions and anatomy to *H. sapiens* it is not known how accurate this estimate is.



SUPPLEMENTARY FIGURE 5. The approximate maximum length of the LB1 radius was estimated from LB1 maximum ulna length using data for ulna length and radius length in modern humans (n.137) and least squares regression. Using these data, radius length = $-4.32 + 0.949 \text{ ulna length}$ (SE 4.208, multiple R 0.972, squared multiple R 0.944). With a maximum ulna length of 205mm this equation estimates the maximum radius length of LB1 as 190mm, with an SE 4.208. As LB1 is from a species with different postcranial dimensions and anatomy to *H. sapiens* it is not known how accurate this estimate is.

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