

Supplementary Online Material (SOM)

The trabecular organization of the proximal femoral end in *Paranthropus robustus*: Implications for the assessment of the australopith hip joint loading conditions

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29 **The comparative radiographic record of recent human proximal femora**

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31 In our study on the trabecular organization of the proximal femoral end in *Paranthropus robustus*,
32 comments on the structural variation of the trabecular systems in extant humans (Aiello and Dean,
33 1990; Levangie and Norkin, 2005; Kapandji, 2011) also rely upon the digital radiographic record of
34 60 proximal femora sampling as much adult individuals (≥ 17 years) of both sexes from the Imperial
35 Roman osteological collection of Isola Sacra, near Rome (Macchiarelli and Bondioli, 2000). The
36 femora were X-rayed in 1995-1997 at the Central Radiology Service of the "C. Forlanini" Hospital,
37 Rome, in the context of the "Isola Sacra Project" granted in 1993-2001 within the "Cultural Heritage
38 Project" by the CT 15 of the Italian National Research Council (to R.M.), and also supported by the
39 Italian Ministry for Cultural Heritage.

40 Computer acquisition and digital processing were performed at the Anthropological Section of the
41 National Prehistoric Ethnographic Museum "L. Pigorini", Rome. It is noteworthy that, while the
42 radiographic images presented here have been selected from a larger set exactly because of their
43 relative quality, some specimens nonetheless preserve traces of clayey-silty-sandy sedimentary filling
44 and show some local minor damages. Evidence for relative density differences among the specimens
45 should not be systematically considered as indicative of age-related differences. Independently from
46 their original side, all specimens are imaged as right femora.

47 Among other contributions, information on the "Isola Sacra project", the archaeological context
48 of the necropolis, the methods used for assessing individual sex and age at death and on some
49 paleobiological aspects concerning the reference Imperial Roman population can be found in Geusa
50 et al. (1999), Rossi et al. (1999), Weaver et al. (2000), Cho and Stout (2003), Prowse et al. (2004,
51 2005, 2007, 2008), Hoover et al. (2005), FitzGerald et al. (2006), Crowe et al. (2010), Lockau et al.
52 (2019), Nava et al. (2019).

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