Did Javan *Homo erectus* suffer a damage from an asteroid impact event?

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Humans first evolved in Africa, and most of human evolution including the emergence of Homo sapiens occurred on Africa. The first migration out of Africa occurred soon after humans evolved to *Homo erectus* in East Africa, and arrived at Dmanisi, Georgia at about 1.8 Ma. Since then, *Homo erectus* further migrated into Europe (1.2 Ma) and Eastern Asia (1.6 Ma), and arrived in Java (1.3 Ma). The Sangiran Dome, central Java is one of the most important anthropological sites, but a debate on chronology of hominid-bearing beds continued for more than two decades. A recent study combining U-Pb and Fission-track dating methods revealed that the earliest arrival of *Homo erectus* in Sangiran was at about 1.3 Ma or after, and the second migration of more evolved *Homo erectus* into Sangiran occurred at about 0.9 Ma (marine isotope stage 22). Sangiran *Homo erectus* disappeared at 0.79 Ma. The uppermost hominin fossil-bearing layer lies just below the Matuyama-Brunhes polarity transition, almost comparable with a horizon of tektite, an asteroid impact evidence at 0.79 Ma. About 0.5 million years after the impact event, a *Homo erectus* fossil reappeared in Sambungmacan, east Java, probably with keeping morphological features of Sangiran *Homo erectus*. The gap of hominin fossil findings possibly indicates that hominins suffered a great damage from an asteroid impact event, like a significant population decline. *Homo erectus* survived until about 100 ka in Java.

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