

# **Humans may have occupied Indonesian site Leang Burung 2 earlier than previously thought**

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Stone artifacts excavated from the deep deposits at Leang Burung 2. (a) limestone core, square D10, spit 54 (Layer A); (b) limestone core, square D11, spit 55 (Layer A/B); (c) retouched limestone flake, square D11, spit 47 (Layer I); (d) multiplatform limestone core, square D11, spit 55.(Layer A); (e) limestone flake, square D11, spit 50 (Layer A). Scale bars are 10 mm.\* Credit: Brumm et al (2018)

Renewed excavations at the Late Pleistocene Leang Burung 2 rock shelter archaeological site on the island of Sulawesi, Indonesia have revealed new evidence of early human occupation, according to findings by Adam Brumm of Griffith University's Australian Research Centre for Human Evolution, and colleagues from Indonesia's National Research Centre for Archaeology (ARKENAS), published April 11, 2018 in the journal *PLOS ONE*.

The island of Sulawesi is generally assumed to have been a key stepping-stone on early human dispersal routes with modern humans possibly making first landfall as early as 65,000 years ago, based on early colonization dates for Australia. The limestone rock-shelter at Leang Burung 2 in the Maros karsts of Sulawesi has long held significance in our understanding of early human dispersals into 'Wallacea', the vast zone of oceanic islands between continental Asia and Australia. In 1975, artifacts recovered at Leang Burung 2 were interpreted as evidence of occupation by modern humans between 25,000 and 34,000 years ago, but excavations were discontinued before bedrock or sterile deposits were reached.

Brumm and colleagues returned to Leang Burung 2 in 2007 and between 2011 and 2013 to reassess the dating and interpretation of early findings

and to dig nearly 3 meters deeper for more ancient materials. Their analysis suggests that the upper layers of sediment are of mixed age, and thus the artifacts from the 1975 excavation may be younger than previously thought. But in the newly-excavated lower levels of the deposit, they discovered and dated archaic cobble-based cores and flakes that indicate human occupation at the site at least 50,000 years ago. These new artifacts provide key insights into the history of human occupation and cultural evolution across the Indonesian region.

While the identity of the ancient toolmakers is unknown, it is possible that these were the same early [modern humans](#) that produced 40,000-year-old cave art found in neighbouring caves or they could be a separate population of more ancient humans or human relatives that had long inhabited Sulawesi. The researchers note that these recent excavations do not yet reach the lowest layers of the deposit, and that further exploration at nearby sites may recover even older remains of human [occupation](#), as well as more dateable materials to confirm their preliminary age estimates.

Adam Brumm says: "We have uncovered archaeological evidence for an ancient population of 'Ice Age' hunter-gatherers that inhabited Leang Burung 2 rock-shelter around 50,000 years ago. This early 'culture', so far as it can be discerned from stone tools and associated faunal remains, is strikingly different to that of the modern human foragers who were creating sophisticated cave art in nearby sites by 40,000 years ago, perhaps suggesting the first inhabitants of this site may not only have been members of a different culture but also a distinct human species."

**More information:** Brumm A, Hakim B, Ramli M, Aubert M, van den Bergh GD, Li B, et al. (2018) A reassessment of the early archaeological record at Leang Burung 2, a Late Pleistocene rock-shelter site on the Indonesian island of Sulawesi. *PLoS ONE* 13(4): e0193025.  
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