

# New research confirms Indonesian 'Hobbit' was a new species

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An international team of researchers led by the Smithsonian Institution has completed a new study on *Homo floresiensis*, commonly referred to as the “hobbit,” a 3-foot-tall, 18,000-year-old hominin skeleton, discovered four years ago on the Indonesian island of Flores. This study offers one of the most striking confirmations of the original interpretation of the hobbit as an island remnant of one of the oldest human migrations to Asia. The research is being published in the Sept. 21 issue of *Science*.

The team turned its research focus to the most complete of the 12 skeletons discovered and specifically toward three little bones from the hobbit’s left wrist. The research asserts that modern humans and our closest fossil relatives, the Neandertals, have a very differently shaped wrist in comparison to living great apes, older fossil hominins like *Australopithecus* (e.g., “Lucy”) and even the earliest members of the genus *Homo* (e.g., *Homo habilis*, the “handy-man”). But the hobbit’s wrist is basically indistinguishable from an African ape or early hominin-like wrist—nothing at all like that seen in modern humans and Neandertals.

The lead author of the study, Matt Tocheri, a paleoanthropologist in the Smithsonian’s Human Origins Program at the National Museum of Natural History, was completely surprised when he first saw casts of the hobbit’s wrist bones. “Up until then, I had no definitive opinion regarding the hobbit debates,” said Tocheri. “But these hobbit wrist bones do not look anything like those of modern humans. They’re not

even close!”

The evidence from the hobbit’s wrist is extremely important because it demonstrates further that the hobbit indeed represents a different species of human as was originally proposed by its discoverers. It is not a modern human with some sort of pathology or growth disorder. The distinctive shapes of wrist bones form during the first trimester of pregnancy while most pathologies and growth disorders do not begin to affect the skeleton until well after that time. Therefore, pathologies or growth defects cannot adequately explain why a modern human would have a wrist that was indistinguishable from that of an African ape or primitive hominin.

This evidence suggests that modern humans and Neandertals share an earlier human ancestor that the hobbits do not. Tocheri continued, “Basically, the wrist evidence tells us that modern humans and Neandertals share an evolutionary grandparent that the hobbits do not, but all three share an evolutionary great-grandparent. If you think of modern humans and Neandertals as being first cousins, then the hobbit is more like a second cousin to both.”

Caley Orr of Arizona State University and a co-author of the study said, “Wrist bones have a lot of complex anatomy, which makes them particularly useful for understanding the evolutionary relationships of living and fossil species through detailed comparative analyses.”

The international team used cutting-edge 3-D technology to compare and quantify the shapes of the different wrist bones. Many of the sophisticated 3-D techniques used for the analysis were developed during the past few years at the Partnership for Research in Spatial Modeling at Arizona State University. Tocheri and Orr both worked as graduate research assistants at PRISM, where they learned how to apply these 3-D techniques toward their research interests in

paleoanthropology.

Source: Smithsonian

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