

'Hobbit' fossils represent a new species, concludes UM anthropologist

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University of Minnesota anthropology professor Kieran McNulty (along with colleague Karen Baab of Stony Brook University in New York) has made an important contribution toward solving one of the greatest paleoanthropological mysteries in recent history -- that fossilized skeletons resembling a mythical "hobbit" creature represent an entirely new species in humanity's evolutionary chain.

Discovered on the Indonesian island of Flores in 2003, controversy has surrounded the fossilized hominid skeletons of the so-called "hobbit people," or *Homo floresiensis* ever since. Experts are still debating whether the 18,000-year-old remains merely belong to a diminutive population of modern-day humans (with one individual exhibiting "microcephaly," an abnormally small head) or represent a previously unrecognized branch in humanity's family tree.

Using 3D modeling methods, McNulty and his fellow researchers compared the cranial features of this real-life "hobbit" to those of a simulated fossil human (of similar stature) to determine whether or not such a species was distinct from modern humans.

"[*Homo floresiensis*] is the most exciting discovery in probably the last 50 years," said McNulty. "The specimens have skulls that resemble something that died a million years earlier, and other body parts reminiscent of our three-million-year-old human ancestors, yet they lived until very recently -- contemporaries with modern humans."

Comparing the simulation to the original Flores skull discovered in 2003, McNulty and Baab were able to demonstrate conclusively that the original "hobbit" skull fits the expectations for a small fossil hominin species and not a modern human. Their study was published online this month in the *Journal of Human Evolution*.

The cranial structure of the fossilized skull, says the study, clearly places it in humanity's genus *Homo*, even though it would be smaller in both body and brain size than any other member. The results of the study suggest that the theorized "hobbit" species may have undergone a process of size reduction after branching off from *Homo erectus* (one of modern day humanity's distant ancestors) or even something more primitive.

"We have shown with this study that the process of size reduction applied to fossil hominins accounts for many features seen in the fossil skull from Flores," McNulty said. "It becomes much more difficult, therefore, to defend the hypothesis that the preserved skull is a modern human who simply suffered from an extremely rare disorder.

Public interest in the discovery, analysis and implications of Flores "hobbits" has been high ever since 2003, inspiring several television specials (including a recent episode of "NOVA" entitled "Alien From Earth") and other media attention.

While the debate over *Homo floresiensis* will continue, McNulty believes this comprehensive analysis of the relationship between size and shape in human evolution is a critical step toward eventually understanding the place of the Flores "hobbits" in human evolutionary history.

"I think the majority of researchers favor recognizing this as a new species," McNulty said about the categorization of *Homo floresiensis*.

"The evidence is becoming overwhelming, and this study helps confirm that view."

Source: University of Minnesota

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