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## Stony Brook researcher: 'Hobbit' fossil a type of human

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 By DELTHIA RICKS delthia.ricks@newsday.com



Photo credit: Stony Brook University | Since its announcement in 2004, Homo floresiensis has emerged as one of the most fascinating and perplexing twists to the story of human evolution in recent history.

The fossil remains of a diminutive humanlike creature -- a real-life hobbit, of sorts -- has stoked wonder and scientific debate for a decade, and now a Stony Brook University anthropologist says she has proof it's a distinct species in the family of humankind.

Some evolutionary biologists say the 3-foot, 2-inch-tall cave-dwellers who inhabited the Indonesian island of Flores were simply small modern humans afflicted with a major medical condition.

But new Stony Brook research of the 18,000-year-old skull, led by Karen Baab and a team of scientists, put the prehistoric hobbit to a battery of modern tests.

They conclude, in a paper published Thursday in the journal PLoS ONE, that the creatures with tiny heads and oversized feet represent a new, distant cousin in the tree of life.

"It is not a modern human with a disease. It is a separate species," Baab said, referring to Homo floresiensis as a new species within the Homo genus and an early human ancestor. Others in the family tree include Homo habilis and Homo erectus.

The skull, unearthed in 2003, is known as LB-1 and is the only intact skull of that species that has been found.

Baab said the hobbits carry that name because their appearance and size come close to the fictional creatures of J.R.R. Tolkien's "The Hobbit" and "Lord of the Rings."

For years, some scientists have contended the hobbits were afflicted with microcephaly, a neurodevelopmental condition marked by a small skull and minuscule brain.

Others have argued that with a head so small and height so compromised, surely the hobbits had Laron syndrome, a genetic condition typified by dwarfism.

A third condition put forward by some was cretinism caused by severe hypothyroidism, which would have meant lowered intelligence and stunted growth, Baab said.

But she and her collaborators studied specific regions of the skull, called landmarks, and found that the hobbit showed no close link to modern humans, and had no signs of the hypothesized disorders.

The scientists also compared the skull to other early humanlike ancestors and confirmed that Homo floresiensis was not at all like them.

Whether Baab's extensive research, which spans years and involved CT scans and other high-tech diagnostics, can extinguish the fiery debate is yet to be seen.

Robert B. Eckhardt, an evolutionary biologist at Pennsylvania State University who has conducted studies of his own on the same fossil, said Wednesday he has concluded the hobbits are merely modern humans -- just short and a bit odd in appearance.

Eckhardt said he will vigorously contend, in a paper to be published later this year, that only LB-1 -- not all members of the hobbit clan -- was stricken with a medical condition. He said his studies with a colleague, Maciej Henneberg in Australia, suggest that all others probably were normal humans, though dwarfish and big-footed.

"We've put forth the hypothesis, using the skull of LB-1, that we can identify a pathology that fits a diagnosis of Down syndrome," he said.

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