

## Hobbits on Flores, Indonesia

- Narrator: 00:00 In 2003, in a cave on the Island of Flores, Indonesia, the skeleton of a tiny adult standing just over three feet tall was found. Dating techniques showed that this hominin lived about 18,000 years ago. It was named Homo floresiensis, nicknamed the Hobbit.
- Dr. Matt Tocheri: 00:18 The significance of this particular skeleton really comes in terms of what it looks like and the date of the sediments that it comes from. If we were to find a skeleton like this in East Africa, in sediments that dated to a million and a half or two million years ago, it wouldn't really be that big of a surprise. The surprise is we find it on this isolated island in Indonesia, only 18,000 years ago. And so, it's two million years out of date and in the wrong place. And also, at a time when it overlaps with us, which automatically ups the curiosity level.
- Narrator: 00:52 So, this wasn't what paleo-anthropologists would expect to find in Asia from this time period. In fact, when Matt Tocheri first heard about it during a professional meeting, he was stunned.
- Dr. Matt Tocheri: 01:03 I just thought, it's got to be a joke, right? And I remember then asking someone about it. And one of my good friends then handed me the nature papers describing these specimens. And I remember just sitting down and my jaw dropping thinking, can this really be real? In fact, they tease me about it because I actually said, "Oh my God, what a great time to be alive."
- Narrator: 01:25 Was this really a new species or a deformed modern human? The answer can be found in the skeleton's anatomy and not just her height.
- Dr. Matt Tocheri: 01:35 Her short stature is something that's very interesting, but even more interesting is the fact that within that stature, the proportions are all very different than what they are in you or I. Basically, she has very, very short, lower limbs. And so, it makes the rest of her anatomy, like her arms and her feet, look large. And this is something that's true

of all earlier hominins as well as even African apes today. But it's actually the fact that we're the oddballs, we're the ones that actually have really long lower limbs, that then make the proportions look quite different.

Narrator: 02:06 Matt's own research also helped to confirm the hypothesis that Homo floresiensis belonged to an earlier hominin species.

Dr. Matt Tocheri: 02:13 My PhD research had been looking at the wrist anatomy of not only our species, but our close relatives, the great apes, as well as looking at other human fossil wrist bones. And what's really interesting is in our wrist, as well as the wrist of Neanderthals, we have several features in our wrist bones that are quite different than what we see in earlier hominins or in African apes. There's been a big change basically, in the evolution of our wrist, and we see that change only in Neanderthals and us. (02:42) And what was so striking to me was the fact that LB-1, this specimen of Homo floresiensis still has the condition we see in earlier hominins as well as African apes. So for me, this was very clear evidence that this is not a diseased modern human, this is basically a very close relative to ours, but a different lineage of human. (03:03) It opens up a lot of doors because of its time of showing up at 18,000 years ago, then we know it had to come from somewhere. And so, there's basically several million years of human evolution, particularly in that part of the world, that we need to come to grips on. And right now, we have very little evidence of it. And so, we know though that because of finding a specimen like this, there must be a record out there. We know that there are stone tools on Flores that date to more than 800,000 years ago. (03:32) So, we know that we have an 800,000 year record of human evolution and yet, all we have are the tools that are 800,000 years old and then LB-1 and some other bits from Liang Bua, within the last 20,000 years. And so, there's a lot still to learn about that and try and figure out, well what happened there and then also, how does that relate to human evolution on mainland Asia and all the way back to Africa? So, I see it as a tremendous opportunity because it just shows us that we're in for a lot more surprises.

[Return to the web page for this video, "Hobbits on Flores, Indonesia"](#)