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Modern human (left), Palau pygmy (center) and Flores hobbit (right) skulls  
Stephen Alvarez

## **Fossil Pygmy Bones Found in Palau**

### *A challenge to the defenders of the Flores hobbit*

Nowadays, relict populations of the pygmy race are found not only in central Africa, but also in many parts of southern Asia: Aeta in Philippines, Semang in Malaya, Mani in Thailand, the Andamanese tribes from the Andaman archipelago, Rampasasa from Flores island, and many pygmy tribes also inhabited the mountains of New Guinea or in Vanuatu archipelago. A new research published in the science journal "PLoS ONE" describes pygmy fossils from the Pacific island nation of Palau, located 370 mi (600 km) east of the Philippines. The human fossils are 900 to 2,900 years old and belong to modern humans, *Homo sapiens*. The older bones are smaller and present primitive features of *Homo sapiens*. "They weren't very typical, very small in fact," said Lee Berger, a paleoanthropologist at the University of Witwatersrand in Johannesburg, South Africa, who discovered the fossils in 2006 in a pair of caves, while kayaking on Palau during a vacation. The bones were piled by waves on the caves' floors or covered by sand layers; several skulls and other bones were cemented to the walls. The bones belonged to two distinct human types. The most recent population, encountered near the entrance to one of the caves, belonged to normally-sized people. Bones discovered deeper in the caves were very small. The older bones belonged to people that were 3 to 4 ft (0.94 to 1.2 m) tall and weighed 70 to 90 pounds (32 to 41 kg). The size was similar to the so-called hobbit of the island of Flores (Indonesia), discovered in 2003. Some hurried up to classify the hobbit as a distinct human species, *Homo floresiensis*. But "the estimated brain size of the early Palauans is about twice the size of the hobbit brain," said Berger. Other traits, too, like the shape of the face and hips, pointed that the old Palauan bones were of modern humans, *Homo sapiens*. "If the interpretation of the Palauan remains is correct, the find may add more fuel to the debate over whether the Flores hobbit is a unique species," Berger said. Some of the Palau pygmies lacked chins and had large jaws and teeth, and small eye sockets. "Some of these features were considered important in originally distinguishing the hobbit as a unique and archaic species," said Berger. Now, the Palau bones point that these traits are caused by insular dwarfism, occurring in many mammal species in small island environment. Palau has no native terrestrial mammals and large reptiles that those first inhabitants could have hunted. Archaeological remains point that fishing started in the area 1,700 years ago, when Polynesians (to whom the large bones belong) colonized Palau. The researchers believe that the extremely small size of the first Palauans was due to the limited food items, tropical climate, lack of predators, a small founding gene pool and isolation. Some insist in defending the theory of the hobbit species. "The hobbit is distinguished from modern humans by jaw structures called transverse tori, which are seen in human ancestors, such as australopithecines and some *Homo erectus* fossils," William Jungers, an anthropologist at Stony Brook University in New York, told National Geographic News. "My team has yet to analyze the shoulder, feet, and wrist bones in their Palauan sample and thus cannot comment on how they compare to the hobbit bones," said Berger. The hobbit brain is much smaller than that of all living pygmies and that of the ancient Palauans. That's why many researchers point to the fact that the hobbit could be just a pygmy with microcephaly or cretinism. Other bones, too, point to these theories. Some of its bone traits are sometimes encountered in the offspring of a normal pygmy woman with goiter. "The Palauan discovery expands the known range of variation in modern humans in Southeast Asia," said co-author Steven Churchill, a paleontologist at Duke University. "It's well known that small-bodied human populations exist in Southeast Asia. A community of pygmies now lives near the Flores hobbit site in the village of Rampapasa, so finding small-bodied *Homo sapiens* on

Palau is no surprise," Robert Martin, the curator of biological anthropology at the Field Museum in Chicago, Illinois, told National Geographic News. In fact, pygmies still live in the nearby Philippines (the Aeta tribes, today greatly mixed with Malayo-Polynesians). "You don't have to look very far to find the facial and dental characters thought to be unique in Flores. If traits such as those found among the early Palauans are common on islands, then scientists who want to name a new species in the human lineage will have to present a much better case built on a lot more fossils before the world will buy it," said Berger.