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Ancient ancestor reveals skeletal stamina

A new fossil find in South Africa represents the most complete skeleton to date attributed to the australopithecines, an extinct line of two-legged, small-brained creatures who were early members of the human evolutionary family.

Anthropologists last week announced their discovery of the largely intact skull and lower body, which they found in an underground cave. A brief description of the skeleton appears in the Dec. 10 NATURE. The October SOUTH AFRICAN JOURNAL OF SCIENCE contains a more detailed account by Ronald J. Clarke of the University of the Witwatersrand in Johannesburg.

Clarke supervised two colleagues who found the australopithecine specimen after descending about 45 feet into the Silberberg Grotto of the Sterkfontein caves. Prior excavations elsewhere at Sterkfontein yielded fragmentary remains of AUSTRALOPITHECUS AFRICANUS, a human ancestor of uncertain evolutionary status dating approximately to between 3.2 million and 2.4 million years ago.

"This is a remarkable find," says Witwatersrand's Phillip V. Tobias, who directs all Sterkfontein excavations. "We don't know its species or sex yet, but it looks like an adult australopithecine."

Clarke found foot bones from the skeleton while working at Silberberg Grotto in 1994. He discovered more parts of the same foot stored in boxes from prior excavations there (SN: 7/29/95, p. 71).

Clarke then organized another exploration of the site. Investigators identified many of the individual fossil's limb, hip, and back bones, as well as a nearly complete skull, protruding from limestone in the cave. The skull's jaws bear full sets of teeth.

It will take at least a year to remove the entire skeleton from its rocky resting place, Clarke says. He plans to examine the limb joints to test the theory—so far, based only on the foot bones—that this creature combined upright walking with considerable tree climbing.

Analyses of magnetic properties of limestone, taken from below and above the fossil, place it between 3.2 million and 3.6 million years old.

Until now, the most complete australopithecine skeleton was that of Lucy, a 3.2-million-year-old find assigned to *Australopithecus afarensis*.

"This new skeleton contains important information about the size and shape of the australopithecine body that's been hard to come by," remarks anthropologist Bernard Wood of George Washington University in Washington, D.C.

Wood suspects that the specimen belongs to *A. africanus*, which in his view lessens its potential for generating evolutionary insights. Lower-body remains from at least one other australopithecine species at Sterkfontein from the same time, he asserts, would allow for the identification of species-specific limb features.

—B. Bower