Ancient Ape Shuffles to Prominence

Scientists have long viewed an upright, two-legged stride as a trait unique to hominids, the approximately 6-million-year-old human evolutionary family. However, it's time to give that assumption its walking papers, contend two anthropologists.

According to their new fossil analysis, a 9-million- to 7-million-year-old apelike animal also spent much of its time standing upright, methodically shuffling short distances to collect fruit and other edible goodies on what was once a Mediterranean island.

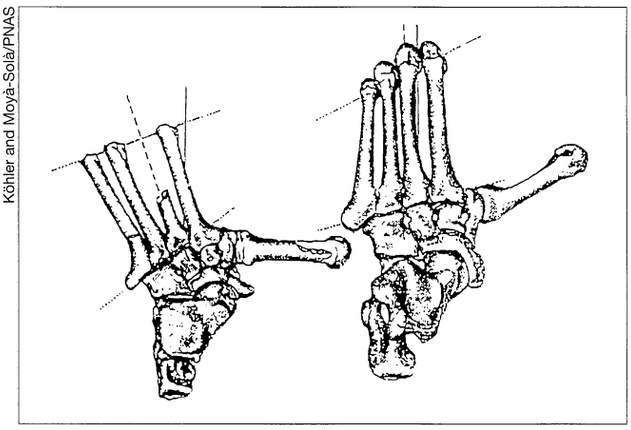
This achievement represents a small step for hominids, but it's a giant leap for apekind. Until now, it appeared that the fossil apes that preceded hominids could only climb, swing through trees, and walk on all fours.

Further study of the ancient Mediterranean creature, known as *Oreopithecus bambolii*, should help to clarify how evolutionary pressures led to an upright stance, say Meike Köhler and Salvador Moyà-Solà, both of the M. Crusafont Paleontological Institute in Sabadell, Spain.

"This a major contribution," remarks anthropologist David Pilbeam of Harvard University. "It convincingly shows that [an upright stance] did not evolve only in hominids."

Oreopithecus fossils have been excavated for more than a century in parts of central Italy. The ancient ape, along with many other mammals, inhabited this area when it was an island in the Mediterranean Sea.

About 40 years ago, a few researchers suggested that *Oreopithecus* possessed skeletal features consistent with upright walking. Their unorthodox view was generally rejected for lack of sufficient anatomical evidence.



Köhler and Moyà-Solà/PNAS

Bird's-eye view of foot bones from Oreopithecus *(left) and a chimpanzee.*

Over the past 2 years, Köhler and Moyà-Solà have studied previously undescribed *Oreopithecus* specimens held at the Natural History Museum in Basel, Switzerland. The partial fossils include sections of the lower back, pelvis, leg, and foot. Overall, the creature's lower body falls in between that of apes and australopithecines, an early group of hominid species, the scientists report in the Oct. 14 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES.

Like hominids, *Oreopithecus* possessed a lower back that arched forward and a vertically aligned knee joint, two features crucial to upright walking, the Spanish investigators contend. Parts of the ancient ape's pelvis resemble corresponding areas of *Australopithecus afarensis*, the hominid species that includes the partial skeleton of the specimen known as Lucy, they add.

However, *Oreopithecus* displays a foot like that of no other primate. Its big toe sticks out at about 90° from the remaining toes, all of which are shorter and straighter than toes of living apes. The foot provided a firm base for an upright stance, although its birdlike, tripod design probably restricted the animal to a short, shuffling stride.

Life on an island inhabited by no predators and containing abundant foraging opportunities apparently fostered the evolution of *Oreopithecus'* unique style of walking, the researchers theorize.

Further study of *Oreopithecus* may help researchers sort out influences on the evolution of upright walking in hominids, Pilbeam notes. —*B. Bower*

More vitamin C means fewer cataracts

Women who took vitamin C supplements for at least 10 years proved only 23 percent as likely to develop cataracts as women who received the vitamin only in their diet, a new study finds.

Allen Taylor of the U.S. Department of Agriculture Human Nutrition Research Center on Aging at Tufts University in Boston has been probing the relationship between cataracts and antioxidant vitamins, such as vitamin C, for more than a decade. Initially working with eye tissue in the laboratory, he and his colleagues have shown that vitamin C can slow the chemical reactions that make certain lens proteins clump together, causing cataracts. The group then demonstrated that giving animals the vitamin retarded cataract development.

Now, in the October AMERICAN JOURNAL OF CLINICAL NUTRITION, the scientists describe evidence that the human eye derives similar benefits from vitamin C.

The new study, headed by USDA epidemiologist Paul F. Jacques, recruited local women from the Nurses' Health Study. This Harvard University project has been charting diet and disease in more than 120,000 women since 1972.

The researchers identified some 56- to 71-year-olds who in the early 1980s had taken vitamin C supplements and others who had not. Of the women, 165 supplement users took eye tests, as did 136 women with no added vitamin C.

Though none of the women had been diagnosed with cataracts, 188 showed at least early signs of the disease. Sixty percent of these early cataracts appeared in women who had never taken supplements; moreover, the risk of cataracts decreased as the duration of supplementation increased. The mean dietary intake of vitamin C for women not taking supplements was 130 milligrams per day—about twice the recommended amount but less than one-third the average of women taking supplements.

A few other studies have found signs that antioxidant supplements inhibit cataract formation, Jacques notes, but they suffered from potential bias because the women knew whether they had cataracts before answering questions about diet. Previous studies also tended to collect dietary data just once, rather than repeatedly over a decade.

The new study suggests that the protective effect of long-term vitamin C supplements "could be quite strong," notes Julie A. Mares-Perlman of the University of Wisconsin-Madison Medical School in an accompanying editorial. However, she adds, with only about 25 women in the long-term supplement group, there were too few to establish the magnitude of benefits.

A larger, planned follow-up of randomly selected participants in the nurses' study should resolve this issue, Jacques says, as well as whether other antioxidants—such as vitamin E and carotenoids—offer similar protection. —*J. Raloff*