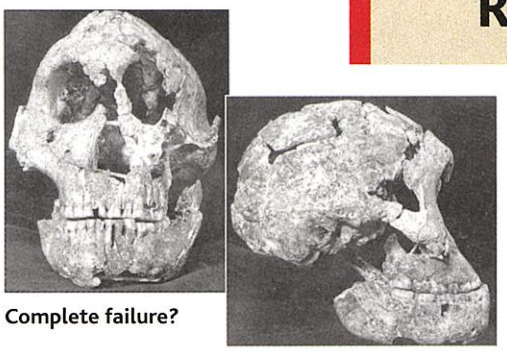
Best Apeman Skull Yet

South African researchers have unearthed the most complete skull ever found of a robust australopithecine (*Paranthropus robustus*), a hominid that roamed the veldt some 2 million years ago. The small skull, unveiled last week in Johannesburg, is believed to be that of a female. It was found, along with a male jawbone, by retired government geologist André Keyser in 1994 at a relatively new site called Drimolen, near the renowned Sterkfontein caves.



Complete failure?

The skull "is almost certainly the most complete australopithecine skull ever found," says Stanford University anthropologist Richard Klein. It "can tell us more about robust australopithecines than many, many fragmentary skulls." University of Witwatersrand paleoanthropologist Lee Berger says the bones also offer the first opportunity for a comparison of "unequivocally associated male and female robust australopithecines. ... Their form and shape has always been in question until now." The find shows, for instance, that females lacked the male skull ridge known as the sagittal crest and had substantially smaller jaws.

The bones are featured in the May issue of *National Geographic*, which is funding the Drimolen excavation, and published in the April issue of the *South African Journal of Science*, which unkindly notes that this breed was not a human ancestor but rather "a failed early evolutionary experiment at being human."

Precursory Pets

In 1975, agitated animals reportedly tipped off residents of the Chinese city of Haicheng of an impending earthquake, allowing them to flee. Now a Japanese veterinarian thinks it's time to look for earthquake-sensing genes among house pets that survived the 1995 Kobe earthquake.

Mitsuaki Ota, a professor of veterinary medicine at Azabu University near Tokyo, has collected blood samples from some 60 dogs and cats that were unusually restless or continuously mewing or barking in apparent anticipation of the 6.9 magnitude Kobe quake. He also has collected several hundred control samples from Kobe pets that were oblivious to the threat. With some comparative genomics, he hopes to locate the genetic epicenter of the fidgety pets' precursory behavior. His first target: genes associated with the synthesis and reception of dopamine, a major neurotransmitter associated with behavioral problems.

"There is no doubt among many researchers that animals can exhibit strange behavior before certain natural phenomena, but the mechanism has not been discovered," says Ota, who has government grants totaling about $250,000 over 5 years. Unfortunately, he says, he can't try any selective breeding because "most of these pets were neutered." And he admits the project is a long shot. "If we haven't made progress in 5 years, we may have to give up," he says.

Seismologist Robert Geller, an earthquake prediction skeptic at the University of Tokyo, suggests he give it up now. Tales of anomalous animal behavior before quakes are "like UFO reports—entirely anecdotal stuff, with no controlled statistical tests of hypotheses," Geller says.

New Monkeys

***Callithrix acariensis* (*left*) and *C. manicorensis*.**

Two new species of marmosets, squirrel-sized New World monkeys, have been identified in the heart of the Brazilian Amazon. Described in the March issue of *Neotropical Primates*, Dutch primatologist Marc van Roosmalen discovered the animals living as pets among the inhabitants of small riverbank settlements.

Callithrix manicorensis and *Callithrix acariensis* are both light-colored, with one having orange or yellow underparts and the other an orange-tipped black tail. Van Roosmalen, a primatologist at the National Institute for Amazon Research in Manaus, noticed the monkeys while doing fieldwork in the Rio Madeira basin, a remote area in northwestern Brazil, for Washington, D.C.–based Conservation International.

The discovery proves that "we are still far from understanding the biodiversity of most tropical organisms," says primatologist John Fleagle of the State University of New York, Stony Brook. The fact that scientists had completely missed the "brightly colored, diurnal mammals," he says, suggests that "the unknown diversity in small, less visible taxa must be vastly greater."

Awards Time at NSF

Yale biochemist Jennifer Doudna is this year's winner of the prestigious and lucrative Alan T. Waterman Prize: $500,000 from the National Science Foundation to a promising young researcher. Doudna, 36, a Howard Hughes professor of molecular biophysics and biochemistry, is the third female winner in the Waterman's 25-year history. She uses x-ray crystallography and biochemical techniques to show how RNA can act like an enzyme to catalyze specific biochemical reactions.

Doudna

The National Science Board (NSB) has also announced two recipients of its Vannevar Bush Award for lifetime achievement in science and public service: Norman E. Borlaug, father of the Green Revolution and winner of the 1970 Nobel Peace Prize, and physicist Herbert York, for his work in nuclear energy and for leadership in arms control. Physicist Philip Morrison, a professor emeritus at the Massachusetts Institute of Technology, and his wife and collaborator Phylis, are getting the NSB's third annual public service awards for communicating science to the public.

Awards were to be given at 3 May ceremonies in Washington, D.C.

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